

# REPORT ON BOILERS.

No. 6143

Received at London Office

11 JUL 1928

Date of writing Report

9-6-1928

When handed in at Local Office

10

Port of Kobe

No. in Reg. Book

Survey held at

Lama

Date, First Survey 26-9-27

Last Survey

7-6-1928

on the Single Screw Motorship "TAKAMISAN MARU"

(Number of Visits 17)

Gross 1992  
Net 1099

Built at

Lama

By whom built Mitsui Bussan Kaisha

Yard No. 133

When built 1928

Engines made at

Lama

By whom made Mitsui Bussan Kaisha

Engine No. 133

When made 1928

Boilers made at

Lama

By whom made Mitsui Bussan Kaisha

Boiler No. 133

When made 1928

Owners

Mitsui Bussan Kaisha

Port belonging to

Tokyo

## VERTICAL DONKEY BOILER.

Made at Lama By whom made Mitsui Bussan Kaisha Boiler No. 133

When made 1928

Where fixed Bottom eng. room plat. aff.

Manufacturers of Steel

D. Corville & Sons Ltd. Motherwell

Total Heating Surface of Boiler

68 sq. ft.

Is forced draught fitted

No.

Coal or Oil fired

Oil

No. and Description of Boilers

One, vertical wet uptake donkey boiler.

Working pressure 80 lbs sq. in.

Tested by hydraulic pressure to

160 lbs sq. in.

Date of test

8-12-27

No. of Certificate

1231

Area of Firegrate in each Boiler

oil burning

No. and Description of safety valves to each boiler One, spring loaded

Area of each of valves per boiler

per rule 3.14 sq. in.

as fitted 3.97 sq. in.

Pressure to which they are adjusted 80 lbs sq. in.

15.17

Are they fitted with easing gear Yes

State whether steam from main boilers can enter the donkey boiler

Yes

Smallest distance between boiler or uptake and bunkers

or woodwork

Yes

Is oil fuel carried in the double bottom under boiler

No.

Smallest distance between base of boiler and tank top plating

3'-6"

Is the base of the boiler insulated

Yes

Largest internal dia. of boiler

4'-6"

Height 10'-6"

Shell plates: Material

O.H. Steel

Tensile strength

28-32 tons

Thickness

3/16"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

end

Single

long. seams

D.R. lapped

Dia. of rivet holes in

circ. seams 15/16"

long. seams 5/16"

Pitch of rivets

2 1/8"

Percentage of strength of circ. seams

plate 56

rivets 47.2

of Longitudinal joint

plate 67.3

rivets 70.0

combined

Working pressure of shell by rules

192 lbs sq. in.

Thickness of butt straps

outer

inner

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

Material O.H. Steel

Tensile strength

26-30 tons

Thickness

3/16"

Radius

4'-0"

Working pressure by rules

138 lbs sq. in.

Description of Furnace: Plain, spherical, or dished crown Dished crown

Material O.H. Steel

Tensile strength 26-30 tons

Thickness Crown 3/16" shell 1/16"

External diameter

top 3'-6"

bottom 3'-10"

Length as per rule 39 3/16"

Working pressure by rules 195 lbs sq. in.

Pitch of support stays circumferentially

and vertically

Are stays fitted with nuts or riveted over

Diameter of stays over thread

Radius of spherical or dished furnace crown 3'-3"

Working pressure by rule 20 lbs sq. in.

Thickness of Ogee Ring

1/16"

Diameter as per rule

4'-4 7/8"

Working pressure by rule

170 lbs sq. in.

Combustion Chamber: Material

Tensile strength

Thickness of top plate

Radius if dished

Working pressure by rule

Thickness of back plate

Diameter if circular

Length as per rule

Pitch of stays

Are stays fitted with nuts or riveted over

Diameter of stays over thread

Working pressure of back plate by rules

Tube Plates: Material

front

Tensile strength

Thickness

Mean pitch of stay tubes in nests

comprising shell, Dia. as per rule

front

Pitch in outer vertical rows

Dia. of tube holes FRONT

stay

plain

BACK

stay

plain

each alternate tube in outer vertical rows a stay tube

Working pressure by rules

front

back

Orders to combustion chamber tops: Material

Tensile strength

Depth and thickness of girder at centre

Length as per rule

Distance 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 ☒ stay ☒ Thickness { ☒  
 No. of threads per inch ☒ Pitch of tubes ☒ Working pressure by rules ☒  
**Manhole Compensation:** Size of opening in shell plate  $11" \times 5"$  Section of compensating ring  $7\frac{1}{4}" \times 9\frac{1}{2}"$  No. of rivets and diam. of rivet holes 46,  $1\frac{5}{16}"$  Outer row rivet pitch at ends 7" Depth of flange if manhole flanged 3"  
**Uptake:** External diameter  $1' - 3\frac{7}{8}"$  Thickness of uptake plate  $7\frac{1}{16}"$   
**Cross Tubes:** No. Two External diameters {  $9\frac{7}{8}"$  Thickness of plates  $7\frac{1}{16}"$   
 Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with YES.

The foregoing is a correct description,

*W. Kay* Manufacturer

Dates of Survey { During progress of work in shops - 1927 SEPT. 26. OCT. 14. 19. 22. 26. NOV. 8. 14. 29. DEC. 8.  
 while building { During erection on board vessel - 1927 DEC. 14. 1928 JAN. 13. 31. FEB. 28. MAR. 1. 15 MAY 8. JUNE 7  
 Is the approved plan of boiler forwarded herewith 19-9-27.  
 (If not state date of approval.)  
 Total No. of visits 17.

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

The boiler described above has been constructed under special survey, of tested material, the workmanship being good & the scantlings agree with the approved plan.

The boiler has been securely installed aboard & tested under steam with satisfactory results. In my opinion the vessel is entitled to the record of D.B. 80 lbs 6-28 in The Register Book.

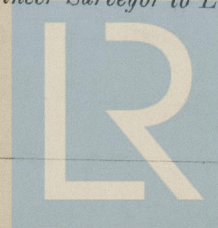
Survey Fee ... .. £ 66 - : : When applied for, JUNE 21<sup>st</sup> 1928  
 Travelling Expenses (if any) £ - : - : : When received, 27/11/28 1928  
 included with expenses of Hull.

Committee's Minute **FRI. 13 JUL 1928**

Assigned

*See P. 1 of attached*

Engineer Surveyor to Lloyd's Register of Shipping.



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