

# REPORT ON BOILERS.

19 OCT 1960  
No. FE-7546

Received at London Office

Date of writing Report 26th April, 1960 When handed in at Local Office 19 Port of KOBE

No. in Survey held at Kobe, Japan Date, First Survey 18th Nov., 1959 Last Survey 20th December, 1960

Reg. Book. (Number of Visits 13) Tons { Gross \_\_\_\_\_ Net \_\_\_\_\_

on the \_\_\_\_\_

Built at \_\_\_\_\_ By whom built \_\_\_\_\_ Yard No. 1532 When built \_\_\_\_\_

Engines made at \_\_\_\_\_ By whom made \_\_\_\_\_ Engine No. \_\_\_\_\_ When made \_\_\_\_\_

Boilers made at Osaka By whom made Hirano Iron Works, Co., Ltd. Boiler No. H-1109 When made 2, 1960

Owners \_\_\_\_\_ Port belonging to \_\_\_\_\_

## VERTICAL BOILER.

Made at Osaka By whom made Hirano Iron Works Co. Boiler No. 1109 When made Feb., 60 Where fixed Osaka

Manufacturers of Steel Plates: The Yawata Iron & Steel Co., Ltd. Tubes: Sumitomo Metal Ind. Ltd.

Total Heating Surface of each Boiler 100 M2 Is forced draught fitted - Coal or Oil fired Oil

No. and Description of Boilers One - Chchran Type Donkey Boiler Working Pressure 7 kg/cm<sup>2</sup>

Tested by hydraulic pressure to 14 kg/cm<sup>2</sup> Date of test 20-2-1960 No. of Certificate \_\_\_\_\_

Area of fire grate in each Boiler \_\_\_\_\_ No. and description of safety valves to each boiler \_\_\_\_\_

Area of each set of valves per boiler { per Rule \_\_\_\_\_ as fitted \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Are they fitted with easing gear \_\_\_\_\_

State whether steam from main boilers can enter the donkey boiler \_\_\_\_\_ Smallest distance between boiler or uptake and bunkers \_\_\_\_\_

or woodwork \_\_\_\_\_ Is oil fuel carried in the double bottom under boiler \_\_\_\_\_ Smallest distance between base of boiler and tank top plating \_\_\_\_\_

Is the base of the boiler insulated \_\_\_\_\_ Largest internal dia. of boiler 2400mm Height 6100mm

Shell plates: Material Boiler Steel Tensile strength 51.6 - 54.0 kg/mm<sup>2</sup> Thickness 16 mm

Are the shell plates welded or flanged \_\_\_\_\_ If fusion welded, state name of welding firm \_\_\_\_\_

Have all the requirements of the Rules for Class I vessels been complied with \_\_\_\_\_ Description of riveting: circ. seams { end... Double zigzag inter... Double zigzag

long. seams Double Butt Strap Dia. of rivet holes in { circ. seams 26.5 mm Pitch of rivets { 75.4 mm Thickness of butt straps { outer... 13 mm inner... 16 mm

long. seams 23.0 mm { 86.5 mm Thickness 23mm

Shell Crown: Whether complete hemisphere, dished partial spherical, or flat Dished partial Material Boiler steel Tensile strength 45.9-46.7 kg/mm<sup>2</sup> Thickness 23mm

Radius 1900 mm Description of Furnace: Plain, spherical, or dished crown Spherical Material Boiler steel

Tensile strength 45.0 - 45.1 kg/mm<sup>2</sup> Thickness 18 mm External diameter { top... \_\_\_\_\_ bottom... \_\_\_\_\_ Length as per Rule \_\_\_\_\_

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 1020 mm

Thickness of Ogee Ring 28 mm Diameter as per Rule { D... 2400 mm d... 2096 mm

Combustion Chamber: Material \_\_\_\_\_ Tensile strength \_\_\_\_\_ Thickness of top plate \_\_\_\_\_

Radius if dished \_\_\_\_\_ 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 \_\_\_\_\_

Tube Plates: Material { front... Boiler steel Tensile strength { 44.9-45.4 kg/mm<sup>2</sup> Thickness { 30 mm Mean pitch of stay tubes in nests 247.5 mm

back... Boiler steel { 44.9-45.4 kg/mm<sup>2</sup> { 30 mm

If comprising shell, dia. as per Rule { front... \_\_\_\_\_ Pitch in outer vertical rows { 210 mm Dia. of tube holes FRONT { stay... 65 mm BACK { stay... 70 mm

back... \_\_\_\_\_ { 210 mm { plain... 66 mm { plain... 66 mm

Is each alternate tube in outer vertical rows a stay tube. Yes

Girders 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 \_\_\_\_\_



Crown Stays: Material

Tensile strength

No. of threads per inch

Diameter { at body of stay, or over threads

Diameter

Screw Stays: Material

No. of threads per inch

Tensile strength

Tubes: Material

O. H. steel

Are the stays drilled at the outer ends

No. of threads per inch

9

External diameter

65 mm

65 mm

Thickness { 3.5 mm 8 mm

Manhole Compensation: Size of opening in shell plate

Pitch of tubes

95 x 105 mm

of rivet holes

Section of compensating ring

No. of rivets and diameter

Uptake: External diameter

Depth of flange if manhole flanged

85 mm

Cross Tubes: No.

External diameters

Thickness of uptake plate

Thickness of plates

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

Yes

The foregoing is a correct description,

Dates of Survey while building

During progress of work in shops

1959:- Nov. 18, 24 Dec. 24

1960:- Jan. 7, 11, 16, 20, 28 Feb. 4, 5, 6, 8, 20

During erection on board vessel

Is the approved plan of boiler forwarded herewith (If not state date of approval.)

Total No. of visits

13

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 Rules, approved plans and Secretary's letters.

The material and workmanship are sound and good.

This boiler has been examined under hydraulically and found good.

Description	Roll No.	Charge No.	Name of Maker
Shell Cover	R 3032	D 30702	Yawata Iron & Steel Co., Ltd.
Top Shell	R 3074	D 30687	- do -
Middle shell (Right)	R 4136	D 27770	- do -
(Left)	R 4137	D 30687	- do -
Bottom Shell	R 3073	D 30687	- do -
Inner Butt Strap	R 3075	D 30687	- do -
Outer Butt Strap (Top)	R 2875	D 30687	- do -
(Bottom)	R 2874	D 30687	- do -
Tube plate (Front)	R 5103	D 30775	- do -
Tube Plate (Back)	R 5102	D 30775	- do -
Furnace	R 2885	D 30688	- do -
Ogee-Ring	R 2888	D 30688	- do -

Survey Fee ... £24.750.-

Travelling Expenses (if any) £ 3.700.-

When applied for MAY 12 1960

When received 19

Date

FRIDAY 11 NOV 1960

Committee's Minute

See Rpt. 1.

Engineer Surveyor to Lloyd's Register of Shipping.

M. Hayashibara & M. Sugihara

Lloyd's Register Foundation