

REPORT ON BOILERS.

No. 6368.

Received at London Office 8 JAN 1929

Date of writing Report 22-12-1928 When handed in at Local Office 19 Port of Kobe

No. in Reg. Book Survey held at Lama Date, First Survey 12th June 1928 Last Survey 6th December 1928

on the Steel Twin Screw Motorship "HAKUBASAN MARU" (Number of Visits 15.) Tons Gross 6651 Net 4071

Built at Lama By whom built Mitsui Bussan Kaisha Yard No. 150 When built 1928
Engines made at Copenhagen By whom made Burmeister & Wain Engine No. 1439 1440 MITSUBI 6 When made 1928
Boilers made at Lama By whom made Mitsui Bussan Kaisha Boiler No. 150 When made 1928
Owners Mitsui Bussan Kaisha Port belonging to Tokio

VERTICAL DONKEY BOILER.

Made at Lama By whom made Mitsui Bussan Kaisha Boiler No. 150 When made 1928 Where fixed Bottom ^{platform} engine room
Manufacturers of Steel Bethlehem Steel Co. U.S.A.

Total Heating Surface of Boiler 1146 sq. ft. Is forced draught fitted No. Coal or Oil fired Oil.

No. and Description of Boilers One, vertical, wet uptake, cross tube. Working pressure 100 lbs.

Tested by hydraulic pressure to 200 lbs. Date of test 1st Oct 1928 No. of Certificate 1548.

Area of Firegrate in each Boiler oil fired No. and Description of safety valves to each boiler Two spring loaded.

Area of each set of valves per boiler { per rule 2.53 sq. in. as fitted 4.81 sq. in. Pressure to which they are adjusted 100 lbs. Are they fitted with easing gear YES.

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 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 5'-1" Height 11'-5"

Shell plates: Material O.H. Stl. Tensile strength 28-32 Thickness 1/2"

Are the shell plates welded or flanged No Description of riveting: circ. seams { end Single inter Single long seams Double lapped

Dia. of rivet holes in { circ. seams 15/16" long seams 15/16" Pitch of rivets { 2 1/8" 2 7/8" Percentage of strength of circ. seams { plate 55.7 rivets 53.3 of Longitudinal joint { plate 67.3 rivets 78.9 combined

Working pressure of shell by rules 149 lbs. Thickness of butt straps { outer inner

Shell Crown: Whether complete hemisphere, dished partial spherical, or flat Dished partial spherical Material O.H. Stl.

Tensile strength 26-30 Tensile strength 26-30 Tensile strength 26-30 Tensile strength 26-30 Thickness 9/16 Radius 5'-0 Working pressure by rules 119 lbs

Description of Furnace: Plain, spherical, or dished crown Dished Material O.H. Stl. Tensile strength 26-30 Tensile strength 26-30

Thickness 5/8 External diameter { top 4'-0" bottom 4'-6" Length as per rule 4'-2 13/16 Working pressure by rules 139 lbs

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 13'-6" Working pressure by rule 124.5 lbs

Thickness of Ogee Ring 5/8 Diameter as per rule { D 5'-0 a 4'-6" Working pressure by rule Above 105 lbs

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 back Tensile strength { Thickness { Mean pitch of stay tubes in nests

comprising shell, Dia. as per rule { front back 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 11×15 Section of compensating ring $5\frac{1}{2} \times 5/8$ No. of rivets and diameter of rivet holes $48 - 7/8$ Outer row rivet pitch at ends $3\frac{1}{2}$ Depth of flange if manhole flanged $3\frac{1}{2}$
Uptake: External diameter $1 - 3\frac{7}{8}$ Thickness of uptake plate $7/16$
Cross Tubes: No. *Four* External diameters { $10\frac{7}{8}$ Thickness of plates $7/16$
 Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with YES.

The foregoing is a correct description,
J. W. ... Manufacturer.

Dates of Survey while building { During progress of work in shops - - } 1928. MAY 12, 19. AUG. 13, 22, 28. SEPT 4, 10. Oct 1. Is the approved plan of boiler forwarded herewith 4-2-28
 (If not state date of approval.)
 { During erection on board vessel - - } OCT. 11, 15, 23, 31. NOV. 5. DEC. 1, 6. Total No. of visits 15.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *This boiler has been constructed under special survey & complies with the Rule Requirements & approved plan. The materials & workmanship employed are good. The boiler has been examined under working conditions & the safety valves have been adjusted under steam. In our opinion the vessel referred to herein is entitled to the Record of D.B. 12-28 in the Register Book.*

Survey Fee ... £ 67 :- When applied for, 14th Dec. 1928
 Travelling Expenses (if any) See Hull Rep. When received, 19

B. G. ... & H. G. ...
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 15 JAN 1929
 Assigned See Hull Rpt. attached

