

REPORT ON BOILERS.

No. 1770

18 DEC 1953

Received at London Office

Writing Report 19... When handed in at Local Office 9 DEC 1953 Port of KOBE

Survey held at Kobe Date, First Survey 6-5-53 Last Survey 16-10-1953

on the STEEL MOTOR VESSEL "HIYEHARU MARU" (Number of Visits 21) Gross 7937.58 Tons Net 4378.74

Built at Kobe, Japan By whom built Mitsubishi Heavy Ind., Reorganized Ltd., Kobe S.Y. & Eng. Wks. Yard No 855 When built 10, 53

made at Kobe, Japan By whom made - ditto - Engine No. 325 When made 10, 53

made at Kobe, Japan By whom made - ditto - Boiler No. 326 When made 10, 53

Horse Power Owners Shin Nihon K.K. Port belonging to Nishinomiya, Japan

TUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Tube:- Sumitomo Metal Ind.

Boiler plate: The Japan Steel Wks., Muroran Wks.

Exhaust gas side 98.64M² + Oil side 99.49M² = 198.13M² (Letter for Record Oil & ex't gas)

Heating Surface of Boilers Oil (155.91M²) Is forced draught fitted Yes Coal or Oil fired (Oil)

Description of Boilers 1-Mitsubishi Kobe Composite system Dry Comb. Cyl. Boiler No. 5 Type Working Pressure 9kgs/cm²

by hydraulic pressure to 17kgs/cm² Date of test 6-8-53 No. of Certificate B495, B498 Can each boiler be worked separately Yes

Firegrate in each Boiler None fitted No. and Description of safety valves to each boiler 110 High Lift duplex Valve each

each set of valves per boiler per Rule (8010mm²) as fitted 7700mm² Pressure to which they are adjusted 9.2kgs/cm² Are they fitted with easing gear Yes

of donkey boilers, state whether steam from main boilers can enter the donkey boiler

distance between boilers or uptakes and bunkers or woodwork Is oil fuel carried in the double bottom under boilers No

distance between shell of boiler and tank top plating Is the bottom of the boiler insulated Yes

internal dia. of boilers 3,850mm Length 2,200mm Shell plates: Material Boiler plate Tensile strength 46.2kg/cm²

25mm Are the shell plates welded or flanged flanged Description of riveting: circ. seams end double rivetted joint

treble rivetted double butt Diameter of rivet holes in circ. seams 29.5mm Pitch of rivets 72.4mm

strap long. seams 29.5mm 182mm

age of strength of circ. end seams plate 59.3% rivets 62.0% Percentage of strength of circ. intermediate seam plate 83.3% rivets 116.0%

age of strength of longitudinal joint combined 90.8% Working pressure of shell by Rules 11.79kg/cm²

is of butt straps outer 22mm inner 25mm No. and Description of Furnaces in each Boiler 1-Morison type 2-Morison type

Boiler plate Tensile strength 43.6kg/cm² Smallest outside diameter 1.076mm

of plain part top bottom Thickness of plates crown 13mm Description of longitudinal joint Welded

ms of stiffening rings on furnace or c.c. bottom None fitted Working pressure of furnace by Rules 12.26kgs/cm²

tes in steam space: Material boiler plate Tensile strength 45.3 Thickness 25mm Pitch of stays 420mm x 360mm

Passed through both end plates tightened Working pressure by Rules 13.25kgs/cm²

stays secured up with nuts & washers at out & in each

ates: Material front Boiler plate Tensile strength 46.3kgs/cm² (42.1kg/cm²) Thickness 25mm

back 300+196=248mm Pitch across wide water spaces 320+400=350 Working pressure front 10.83kg/cm² back 10.83

to combustion chamber tops: Material Tensile strength Depth and thickness of girder

Length as per Rule Distance apart No. and pitch of stays

Working pressure by Rules Combustion chamber plates: Material

Thickness: Sides Back Top Bottom

ays to ditto: Sides Back Top Are stays fitted with nuts or riveted over

pressure by Rules Front plate at bottom: Material Tensile strength

Lower back plate: Material Tensile strength Thickness

ays at wide water space Are stays fitted with nuts or riveted over

pressure 65x50mm, 65mm Main stays: Material Steel bar Tensile strength 49.7 kgs/cm²

At body of stay 6 No. of threads per inch 1436.8cm² x 1039cm²

Over threads kgs/cm² kg/cm² Area supported by each stay 1447cm²

pressure by Rules 15.1 x 11.3, 15.04 Screw stays: Material Tensile strength

At turned off part No. of threads per inch Area supported by each stay

Over threads

Working pressure by Rules..... Are the stays drilled at the outer ends..... Margin stays: Diameter (At turned off part..... or Over threads.....) 4c.
No. of threads per inch..... Area supported by each stay..... Working pressure by Rules.....
Tubes: Material Seamless ✓ External diameter (Plain 70mm ✓ Stay 70mm ✓ Thickness 4mm ✓ 9.5mm ✓ No. of threads per inch.....
Pitch of tubes 98mmx100mm ✓ Working pressure by Rules 10.9kgs/cm² Manhole compensation: Size of in look.
shell plate 305mmx405mm Section of compensating ring 25mmx305mm ✓ No. of rivets and diameter of rivet holes 52mmx29.5mm
480mmx580mm 180mm ✓ Depth of flange if manhole flanged 100mm ✓ Steam Dome: Material.....
Outer row rivet pitch at ends..... 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 engines
stays..... Inner radius of crown..... Working pressure by Rules.....
How connected to shell..... Size of doubling plate under dome..... Diameter of rivet holes Sets.
of rivets in outer row in dome connection to shell.....

Type of Superheater None fitted Manufacturers of Tubes..... Steel forgings..... Steel castings.....
Number of elements..... Material of tubes..... Internal diameter and thickness of tubes.....
Material of headers..... Tensile strength..... Thickness..... Can the superheater be sh
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 pres
Rules..... Pressure to which the safety valves are adjusted..... Hydraulic tes
tubes..... forgings and castings..... and after assembly in place..... Are dra
valves fitted to free the superheater from water where necessary.....

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

The foregoing is a correct description,

S. Murakami, Director & General Manager

Dates of Survey while building { During progress of work in shops - - July: 6, 7, 11, 14, 16, 18, 21, 25 Aug.: 1, 8
During erection on board vessel - - Oct. 3, 14, 16 } Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
Total No. of visits 21

Is this Boiler a duplicate of a previous case..... Yes..... If so, state Vessel's name and Report No. M.V. "ASOHARU MARU"

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The Donkey Boilers of this Vessel
been constructed under Special Survey in accordance with the rules, Approved Plans and Secret
letters. Materials were found to be sound and free from defects and the workmanship is good
The Donkey Boilers have been examined under steam, the safety valves were adjusted to 9.2kgs
square cm and found satisfactory.

Survey Fee ... £ 1108.000
Travelling Expenses (if any) £ See Rpt. 46

When applied for.....
When received.....

DEC 10 1953

Shunichi Y. Kato
Engineer Surveyor to Lloyd's Register of S

TUESDAY 12 JAN 1954

Committee's Minute.....

Assigned..... See Rpt. 46.



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Lloyd's Register
Foundation

13.12.53.