

# REPORT ON BOILERS.

No. 4566

Received at London Office 4 SEP 1930

Report of Survey 15<sup>th</sup> Aug 1930. When handed in at Local Office 16-8-1930 Port of YOKOHAMA

To. in Survey held at YOKOHAMA Date, First Survey 21/1/29 Last Survey 15/8/30 192

Book. on the Steel Twin screw motor vessel "HIYE MARU" (Number of Visits 24) Gross 11,621.71 Tons Net 6,787.05

ster Built at yokohama By whom built yokohama Dock Co. Ltd Yard No. 178 When built 1930

ines made at Copenhagen By whom made Burmeister & Wain, Ltd Engine No. 1604 When made 1929

lers made at yokohama By whom made yokohama Dock Co. Ltd Boiler No. 178 When made 1930

iminal Horse Power 2191 Owners Nippon Yusen Kaisha Port belonging to Tokio

## ULTITUBULAR BOILERS ~~MAIN, AUXILIARY, OR~~ DONKEY.

Manufacturers of Steel J. Dunlop & Co, Lanarkshire (Letter for Record S.)

al Heating Surface of Boilers 1406 sq ft Is forced draught fitted no Coal or Oil fired Oil

and Description of Boilers 2 cylindrical single ended boilers Working Pressure 120 lbs/sq in

sted by hydraulic pressure to 230 lbs Date of test 9/10/29 No. of Certificate 24 Can each boiler be worked separately yes

ea of Firegrate in each Boiler 7.8 sq ft No. and Description of safety valves to each boiler Two spring loaded

ea of each set of valves per boiler 9.8 sq ft Pressure to which they are adjusted 120 lbs Are they fitted with easing gear yes

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

allest distance between boilers or uptakes and bunkers or woodwork Is oil fuel carried in the double bottom under boilers yes

allest distance between shell of boiler and tank top plating 2'-8" Is the bottom of the boiler insulated yes

rgest internal dia. of boilers 9'-6" Length 8'-6" Shell plates: Material Steel Tensile strength 28-32 tons

ickness 1 1/16" Are the shell plates welded or flanged flanged Description of riveting: circ. seams end D.R. Lap. inter. yes

g. seams D.R. D.B.S. Diameter of rivet holes in circ. seams 1 1/16" Pitch of rivets 3 1/8" long. seams 15/16" 3 13/16"

centage of strength of circ. end seams plate 66.9% rivets 60.07% Percentage of strength of circ. intermediate seam plate 75.4% rivets 81% combined

centage of strength of longitudinal joint plate 71.6% rivets 81% combined Working pressure of shell by Rules 134.6 lbs

ickness of butt straps outer 7/16" inner 9/16" No. and Description of Furnaces in each Boiler 2 Deighton Furnaces

ngterial steel Tensile strength 26-30 tons Smallest outside diameter 2'-8 7/8"

ngth of plain part top bottom Thickness of plates crown 7/16" bottom 7/16" Description of longitudinal joint weld

mensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 189 lbs

id plates in steam space: Material steel Tensile strength 26-30 tons Thickness 3/4" Pitch of stays 13"x13"

ow are stays secured nuts & washers Working pressure by Rules 150.24 lbs

be plates: Material front steel back steel Tensile strength 26/30 tons Thickness 1 1/16" 5/8"

an pitch of stay tubes in nests 9.375" Pitch across wide water spaces 13 1/2" Working pressure front 139.6 lbs back 155.9 lbs

rders to combustion chamber tops: Material steel Tensile strength 28-32 tons Depth and thickness of girder

centre 6 1/2" x 9/16" Length as per Rule 23 13/16" Distance apart 10 1/2" No. and pitch of stays

each 2 @ 4 1/4" Working pressure by Rules 136.2 lbs Combustion chamber plates: Material steel

nsile strength 26-30 tons Thickness: Sides 9/16" Back 9/16" Top 9/16" Bottom 9/16"

ch of stays to ditto: Sides 10" x 4 1/4" Back 9 1/2" x 8 1/2" Top 10 1/2" x 4 1/4" Are stays fitted with nuts or riveted over nuts

orking pressure by Rules 133.2 lbs Front plate at bottom: Material steel Tensile strength 26-30 tons

ickness 1 1/16" Lower back plate: Material steel Tensile strength 26-30 tons Thickness 1 1/16"

ch of stays at wide water space 13 1/2" x 8 1/2" Are stays fitted with nuts or riveted over nuts

orking Pressure 142 lbs Main stays: Material steel Tensile strength 28-32 tons

iameter At body of stay, 13/4" No. of threads per inch 6 Area supported by each stay 156 sq in

orking pressure by Rules 161 lbs Screw stays: Material steel Tensile strength 26-30 tons

iameter At turned off part, 15/8" x 1 1/2" No. of threads per inch 9 Area supported by each stay 81 sq in

Working pressure by Rules 154 lbs Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 1 5/8" or Over threads 1 5/8"

No. of threads per inch 9 Area supported by each stay 1130" Working pressure by Rules 133.5 lbs.

Tubes: Material Iron External diameter { Plain 3" Stay 3" Thickness { 9 LSG. 5/16" No. of threads per inch 9

Pitch of tubes 4" x 4 1/8" Working pressure by Rules 168 lbs. Manhole compensation: Size of opening in shell plate 16" x 12" Section of compensating ring 6 1/2" x 7 1/8" No. of rivets and diameter of rivet holes 52 @ 1 1/16"

Outer row rivet pitch at ends 4" Depth of flange if manhole flanged 3 1/4" Steam Dome: Material \_\_\_\_\_

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 diameter of stays \_\_\_\_\_ Inner radius of crown \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_

How connected to shell \_\_\_\_\_ Size of doubling plate under dome \_\_\_\_\_ Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell \_\_\_\_\_

Type of Superheater \_\_\_\_\_ Manufacturers of { Tubes \_\_\_\_\_ Steel castings \_\_\_\_\_

Number of elements \_\_\_\_\_ Material of tubes \_\_\_\_\_ Internal diameter and thickness of tubes \_\_\_\_\_

Material of headers \_\_\_\_\_ Tensile strength \_\_\_\_\_ Thickness \_\_\_\_\_ Can the superheater be shut off and 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 pressure as per Rules \_\_\_\_\_

Pressure to which the safety valves are adjusted \_\_\_\_\_ Hydraulic test pressure: \_\_\_\_\_

tubes \_\_\_\_\_ castings \_\_\_\_\_ and after assembly in place \_\_\_\_\_ Are drain cocks or valves fitted to free the superheater from water where necessary \_\_\_\_\_

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with \_\_\_\_\_

The foregoing is a correct description,

J. J. Jenkins Manufacturer.

Dates { During progress of work in shops -- 29/1/92, 23/2/5, 3/8/3, 11/3, 13/5, 4/4, 17/4. Are the approved plans of boiler and superheater forwarded herewith 29/8/28 (KDB) work in shops -- 19/4, 25/4, 7/5, 10/5, 14/5, 16/5, 27/5, 3/6, 11/6, 28/6, 3/7, 13/8, 14/9/04. (If not state date of approval.)

while building { During erection on board vessel -- 18/12, 26/12, 30/13/30, 1/30. Total No. of visits 27.

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

These boilers have been built under special survey in accordance with the Rules & approved plan. Materials & workmanship good.

After boilers had been securely fastened on board, boilers were examined under steam and their safety valves adjusted to 120 lbs/sq. inch with satisfactory results. Accumulation tests carried out and no rise in pressure found.

Survey Fee ... YEN 141.00 :

Travelling Expenses (if any) £ \_\_\_\_\_

included in 7th Inchy Rpt

When applied for, 16.8.1923

When received, 16.8.1923

Committee's Minute

FRI, 19 SEP 1930

Assigned

See F. E. Rep.

J. J. Jenkins  
(Engineer Surveyor to Lloyd's Register of Shipping.)



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