

REPORT ON BOILERS.

No. 4566

Received at London Office 4 SEP 1930

Report of Survey 15th 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) Tons {Gross 11,621.71
Net 6,787.05

Master Built at Yokohama By whom built Yokohama Dock Co. Ltd Yard No. 178 When built 1930

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

Boilers made at Yokohama By whom made Yokohama Dock Co. Ltd Boiler No. 178 When made 1930

Indicated Horse Power 2191 Owners Nippon Yusen Kisen Kaisha Port belonging to Yokio

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

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

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

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

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

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

Area of each set of valves per boiler {per Rule 7.8 sq in
as fitted 9.8 sq in Pressure to which they are adjusted 120 lbs Are they fitted with easing gear yes

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

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

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

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

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

Long. seams D.R. D.B.S. Diameter of rivet holes in {circ. seams 1 1/16" Pitch of rivets {inter. 3/8"
long. seams 1 5/16" 3 13/16"

Percentage of strength of circ. end seams {plate 66%
rivets 60.04% Percentage of strength of circ. intermediate seam {plate ✓
rivets ✓

Percentage of strength of longitudinal joint {plate 45.4%
rivets 81% Working pressure of shell by Rules 134.6 lbs

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

Material Steel Tensile strength 26-30 tons Smallest outside diameter 2'-8 7/8"

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

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

Stays in steam space: Material Steel Tensile strength 26-30 tons Thickness 3/4" Pitch of stays 13" x 13"

How are stays secured Nuts & washers Working pressure by Rules 150.24 lbs

Front plates: Material {front Steel
back Steel Tensile strength { 26/30 tons Thickness { 1 1/16"
5/8"

Span 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

Stays 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

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

Pitch 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

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

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

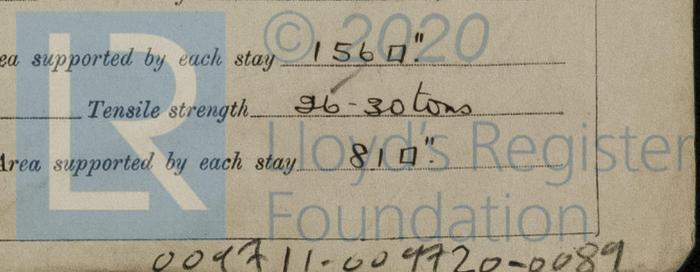
Pitch of stays at wide water space 13 1/2" x 8 1/2" Are stays fitted with nuts or riveted over Nuts

Working Pressure 142 lbs Main stays: Material Steel Tensile strength 28-32 tons

Diameter {At body of stay, 1 3/4"
or ✓ No. of threads per inch 6 Area supported by each stay 156 sq in
Over threads ✓

Working pressure by Rules 161 lbs Screw stays: Material Steel Tensile strength 26-30 tons

Diameter {At turned off part, 1 5/8" x 1 1/2"
or ✓ No. of threads per inch 9 Area supported by each stay 81 sq in
Over threads ✓



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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" Thickness ^{Stay} 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. Jenkins Manufacturer.

Dates of Survey ^{During progress of work in shops} 29/1, 9/2, 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) (If not state date of approval.)

^{while building} ^{During erection on board vessel} 18/12, 26/12, 30/12/30, 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/0" with satisfactory results. Accumulation tests carried out and no rise in pressure found.

Survey Fee ... YEN 141.00 : When applied for, 16-8-1923

Travelling Expenses (if any) £ _____ : When received, 16-8-1923

included in the Inchy Rpt

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

Committee's Minute FRI, 19 SEP 1930

Assigned See F. E. Rep.

