

STEEL STEAMER ~~OR~~ MOTORSHIP.

Received at London Office 24 APR 1930

State if Report has been sent on the Freeboard of the Vessel *yes*State if Report is sent on the Machinery of the Vessel *yes*Date of completion of report 25<sup>th</sup> March 1930

Port of Kobe

No. 6879

Survey held at Osaka

Date First Survey 4<sup>th</sup> December 1928Last Survey 19<sup>th</sup> March 1930

1930

On the (State if Machinery fitted Aft and if Single, Twin or Triple Screw)

Twin Screw motor ship

HEIYO MARU

State Type (Full scantling, Complete Superstructure with or without Tonnage Opening)

Intermediate type

State Type of Erections

Forecastle and Short Bridge

TONNAGE under Tonnage Deck 7989.77

CLASS

+100A1

State if with freeboard as condition of Class

yes

Built at Osaka

Launched 5<sup>th</sup> October 1929 Yard No. 1127

Builders Osaka Iron Works

Owners Nippon Yusen Kaisha

Managers

(Where necessary to be entered in Reg. Book.)

Residence

Port of Registry Tokyo

If surveyed while building, afloat, or in dry dock

Building

Do. of space or spaces between Tonnage Dk. and Upper Dk.

Total

Gross Tonnage 9815.69

Register Tonnage 5871.25

## REGISTERED DIMENSIONS.

FEET.

Length 460

Breadth 60

Depth 40.56

Length from fore part of stem to after part of stern post on summer L.W.L. See Sec. 3 (1a)

L 460

Breadth (greatest moulded)

B 60

Depth, at middle of length from top of keel to top of beam at side of uppermost continuous deck. See Sec. 3 (1c)

D 40.56

1st Longitudinal Number (L x D) = 18658

2nd Numeral L x (B + D) = 46258

Framing Depth "d," at middle of length. See Sec. 3 (1d)

18.5 (hold)

Proportions—Depth to Length—Uppermost continuous deck to top of keel

18.75 (English)

Do. Long Bridge to top of keel

11.34

Draught Moulded (at 1/2 keel)

30.06

## FRAMES, DOUBLE BOTTOM AND BEAMS.

	INCHES IN SHIP.	Any Departure from Approved Plans to be Noted.		INCHES IN SHIP.	Any Departure from Approved Plans to be Noted.
FRAMES, Spacing amidships	33		Bracket Floors, Frame	10 3 40	
" " from 1/2 length to Collision bulkhead	27		" " Reversed Frame	10 3 40	
" " in peaks	24		" " Vertical Struts	10 3 40	
SIDE FRAMING.			Centre Girder, depth and thickness amidships	48.72 x .63 in Hold, 69.72 x .63 in E. Room.	
Frame Amidships, Angle, E or F	10 3 40		" " top Angles	3 1/2 x 3 1/2 x .57	
" " Extends up to	Upper Deck		" " bottom Angles	5 5 .67	
Reversed Frame Amidships, Angle	4 3 40		Side Girders, No. each side and thickness	Two, 45"	See app'd plan for Light Room
" " Extends up to	Third Deck		Margin Plate depth (excl. of flange) and thickness	43" x .57	
Depth of Framing Girder	10"		" " Vertical Angle to Tank side Bracket abaft 1/2 len. from stem	6 6 .53	
Frames in Uppermost Continuous 'tween Decks, Angle, E or F	10 3 40		" " Vertical Angle to Tank side Bracket forward 1/2 len. from stem	6 6 .53	
" " Second 'tween Decks, Angle, E or F	10 3 40		" " Gussets, spacing and scantling abaft 1/2 len. from stem	45 every fr.	Continuous in way of oil.
" " Third " " " "			" " Gussets, spacing and scantling forward 1/2 len. from stem	45 ev. fr.	
Framing in Peaks, Angle, E or F	10 3 40		Tank Side Brackets, height above base line at toe of Frame and thickness	79" x .52"	
Diameter and Spacing of Rivets through Frame and Shell Plating amidships	7/8" Dia. at 6 diam?		INNER BOTTOM PLATING.		
State if Frame Joggled	yes.		Breadth and thickness of Middle Line Strake	57 x .57	
PANTING ARRANGEMENTS (Sec. 7); state system and particulars	with frame system. keels 33 x 50 with 4 1/2 x 3 1/2 x .58 D.A. Struts 33 x 40 with 4 1/2 x 3 1/2 x .58 S.A.		Thickness of remainder in Holds	.49	
STRENGTHENING OF BOTTOM FORWARD. State Particulars	frames doubled, three strakes of plating maintained mid-shelf thickness. One add'l height girder. Also in approved plans.		Are Rule requirements complied with regarding increases of scantlings in way of double bottom in E. & B. space and framing in Bunkers and Boiler Room?	yes.	
DOUBLE BOTTOM.			BEAMS.		
Uppermost Continuous Deck, amidships in Wells, Angle, E or F			Uppermost Continuous Deck, amidships in Wells, Angle, E or F	8 3/4 x 3 1/2 x .32	
" " in way of Bridge, Angle, E or F			" " in way of Bridge, Angle, E or F	8 3/4 x 3 1/2 x .32	
" " Spacing	Every frame		" " Spacing	Every frame	
Second Deck, amidships, Angle, E or F			Second Deck, amidships, Angle, E or F	9 3 38	
" " Spacing	Every frame		" " Spacing	Every frame	
Third Deck, amidships, Angle, E or F			Third Deck, amidships, Angle, E or F	10 3 44	
" " Spacing	33"		" " Spacing	33"	
Fourth Deck, amidships, Angle, E or F			Fourth Deck, amidships, Angle, E or F		
" " Spacing			" " Spacing		
Poop Deck, Angle, E or F			Poop Deck, Angle, E or F		
" " Spacing			" " Spacing		
Bridge Deck, Angle, E or F			Bridge Deck, Angle, E or F	7 3/4 x 3 1/2 x .30	
" " Spacing	Every frame		" " Spacing	Every frame	
Forecastle Deck, Angle, E or F			Forecastle Deck, Angle, E or F	8 3/4 x 3 1/2 x .32	
" " Spacing	Every frame		" " Spacing	Every frame	

NOTE. Revised British Sections (1924) used throughout.

604711-004720-0120



# PILLARS AND DECKS.

	INCHES IN SHIP.	Any Departure from Approved Plans to be Noted.		INCHES IN SHIP.	Any Departure from Approved Plans to be Noted.
<b>PILLARS, No. of Rows.....</b>	<i>Two</i>	/	Stringer Plate, breadth and thickness in way of Bridge .....	<i>61 x .45</i>	
"    in 'tween Decks, Size and Spacing.....	<i>Wide Spaced Pillars - see app'd plans.</i>	/	Thickness of Plating abreast Deck openings in way of Wells .....	<i>41</i>	
"    "    "    "    "    "		/	Thickness of Plating abreast Deck openings in way of Bridge .....	<i>41</i>	
"    in Holds    "    "		/	Thickness of Plating within line of openings...	<i>35</i>	
"    "    "    "    "    "		/	If Sheathed, material and thickness .....	<i>2 1/2" O.P.</i>	
<b>Centre Line Bulkhead.</b>			<b>Third Deck.</b>		
Stiffeners and Spacing.....		/	Stringer Plate, breadth and thickness.....	<i>61 x .39</i>	
Plating, thickness of .....		/	If Plated, state thickness.....	<i>35 abreast openings 32 within line of openings</i>	
<b>STRINGERS AND DECKS.</b>			<b>Fourth Deck.</b>		
<b>Uppermost Continuous Deck.</b>			Stringer Plate, breadth and thickness.....		
Stringer Plate, breadth and thickness in Wells	<i>65 x .76</i>	/	If Plated, state thickness .....		
"    "    "    "    in way of Bridge	<i>ditto</i>	/	<b>Poop Deck.</b>		
"    Angle in Wells .....	<i>6 x 6 x .76</i>	/	Stringer Plate, breadth and thickness .....		
Thickness of Plating abreast Deck openings in way of Wells .....	<i>56 4/5 x .54</i>	/	Plating, Sheathing, material and thickness .....		
Thickness of Plating abreast Deck openings in way of Bridge .....	<i>ditto</i>	/	<b>Bridge Deck.</b>		
Thickness of Plating within line of openings...	<i>43</i>	/	Stringer Plate, breadth and thickness.....	<i>61 1/2 x .44</i>	<i>app'd 61 x .44</i>
If Sheathed, material and thickness .....	<i>3" O.P. when exposed 2 1/2" O.P. - enclosed.</i>	/	Plating, Sheathing, material and thickness .....	<i>34 3" O.P. exposed 2 1/2" enclosed</i>	
<b>Second Deck.</b>			<b>Forecastle Deck.</b>		
Stringer Plate, breadth and thickness in Wells...	<i>61 x .45</i>	/	Stringer Plate, breadth and thickness.....	<i>36 x .38</i>	
			Plating, Sheathing, material and thickness .....	<i>30 x 3" O.P.</i>	

## SHELL PLATING.

SCANTLINGS.					RIVETING.						
STRAKES.	AS IN VESSEL.				ANY DEPARTURE FROM APPROVED PLANS TO BE NOTED.	EDGES. State if jogged? <i>no</i>		BUTTS.			
	AMIDSHIPS.		FORWARD.	AFT.		SINGLE OR DOUBLE.	RIVETS. Diam. Spacing cr. to cr.	No. of Rows of Rivets.	RIVETS.		STRAPPED OR LAPPED.
	Breadth.	Thickness.	Thickness.	Thickness.					Diam.	Spacing cr. to cr.	
FLAT PLATE KEEL .....	<i>55</i>	<i>.92</i>	<i>.82</i>	<i>.84</i>		<i>Double</i>	<i>1 3 2/3</i>	<i>Treble</i>	<i>1</i>	<i>4</i>	<i>double strap</i>
" <i>DECK (if any)</i>											
BOTTOM PLATING, No. of Strakes .....		<i>.72</i>	<i>.62</i>	<i>.66</i>	<i>See plan of Hull Expansion &amp; Boring</i>	<i>do.</i>	<i>7/8</i>	<i>3-3</i>	<i>Quad - treble</i>	<i>7/8 3 1/2 - 3 1/8</i>	<i>Lapped</i>
BILGE PLATING, No. of Strakes .....		<i>.72</i>	<i>.56</i>	<i>.60</i>		<i>do.</i>	<i>7/8</i>	<i>3-3</i>	<i>Quad - treble</i>	<i>7/8 3 1/2 - 3 1/8</i>	<i>do</i>
SIDE PLATING, No. of Strakes .....		<i>.71</i>	<i>50</i>	<i>50</i>		<i>do.</i>	<i>7/8 3/4</i>	<i>3-3</i>	<i>Quad - treble</i>	<i>7/8 3/4 3 1/2 - 2 5/8</i>	<i>do.</i>
UPPER DECK, Sheer-strake in Wells.....	<i>78</i>	<i>.83</i>	<i>50</i>	<i>50</i>		<i>do.</i>	<i>1" - 3/4</i>	<i>3 1/2 - 3"</i>	<i>Quad treble</i>	<i>1" - 7/8 4" - 3 1/8</i>	<i>do.</i>
UPPER DECK, Sheer-strake in Bridge ...	<i>78</i>	<i>.83</i>				<i>do.</i>	<i>1</i>	<i>3 2/3</i>	<i>Treble</i>	<i>1 1/8 4 1/2</i>	<i>Double Strap</i>
STRAKE BELOW SHEER-strake in Wells.....	<i>78</i>	<i>.71</i>	<i>.50</i>	<i>.50</i>		<i>do.</i>	<i>7/8 - 3/4</i>	<i>3-3</i>	<i>Quad - treble</i>	<i>7/8 3/4 3 1/2 - 2 5/8</i>	<i>Lapped</i>
STRAKE BELOW SHEER-strake in Bridge ...	<i>78</i>	<i>.71</i>				<i>do.</i>	<i>7/8</i>	<i>3-3</i>	<i>Quad.</i>	<i>7/8 3 1/2</i>	<i>do.</i>
POOP SIDE PLATING .....											
BRIDGE SIDE PLATING ...		<i>.44</i>				<i>do</i>	<i>3/4</i>	<i>3</i>	<i>Double</i>	<i>3/4 2 5/8</i>	<i>do.</i>
FORECASTLE SIDE PLATING			<i>.44</i>			<i>Singh</i>	<i>3/4</i>	<i>3</i>	<i>Singh</i>	<i>3/4 2 5/8</i>	<i>do.</i>

## WATERTIGHT BULKHEADS.

Total No. of W.T. BULKHEADS in Vessel—						
Extending to Upper Deck (Sec. 3 c)		Seven				
,, Deck next below		—				
As per Rule		Seven.				
		Plating Thickness.	STIFFENERS.			
			VERTICAL.		HORIZONTAL.	
			Scantlings.	Spacing.	Scantlings.	Spacing.
MIDSHIP BULKHEAD, Upper tween decks		.28-.26	4 1/2 x 3 x 36	31"	-	-
(Return to 243 Hold)			angle.			
,, Second Deck		.32-.30	7 x 3 x 34 1/2	29"-31"	-	-
,,						
,, Holds		46-35	12 x 4 x 4 x 48	31"	-	-
COLLISION (in Hold)		.56-.34	9 x 3 1/2 x 40 1/2	24"	18 1/2 Beam & Chain locker bottom.	
AFTER PEAK		.54-.34	8 x 3 x 40 1/2	24"	Top of Tunnel Beam	
Manufacturer's Name or Trade Mark of the Steel used in the construction of the Vessel (state process of manufacture)						
STEEL.		Pearse Partners, Downman Long, Llanwrthwl Steel Co, Kawasaki Dockyard Co, Cargo Fleet Iron Co, Steel Co. of Scotland, Arden & B. Co, Colville & Co.				
Has the Steel been tested as required by the Rules? Yes.						

## FORGINGS and CASTINGS.

	Casting or Forging.	Scantlings.	Maker's Name.	Any departure from approved plans to be noted.
<b>KEEL, Bar.</b>				<i>Stem about 2nd Deck 70" curved plate</i>
<b>STEM</b>				<i>Cast in two sections, see app'd plan</i>
<b>STERN FRAME</b>	<i>Propeller Post</i>			<i>Cast. See app'd plan</i>
	<i>Rudder</i>			
<b>RUDDER—A x D.....</b>	<i>73 1/2</i>			
<b>Speed of Vessel .....</b>	<i>15 knots</i>			
<b>RUDDER</b> mainpiece at head ...	<i>Forged.</i>	<i>13"</i>		
"    "    heel ...		<i>9 3/4"</i>		
"    how constructed .....	<i>Cast Steel</i>	<i>Semi-Balanced Type.</i>		
"    double or single plate	<i>Alum.</i>			
"    coupling, vertical or horizontal.....	<i>Singh Plate</i>			
	<i>Vertical.</i>			
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EQUIPMENT No. 492578												LETTER E +		ANCHORS. four.			
Number of Certificate.	Anchors.	WEIGHT, EX. STOCK.			WEIGHT OF STOCK.			TEST, PER CERTIFICATE.				WEIGHT REQUIRED BY TABLE 53.		Description of Anchor.	Makers.	Where and when tested and Superintendent.	
		Cwts.	qrs.	lbs.	Cwts.	qrs.	lbs.	Tons.	cwts.	qrs.	lbs.	Cwts.					
996	1st Bower ...	90	2	10	.	.	.	63	12	2	0	95	2	Halls Improved Stockless	Kobe Steels	Kobe	17.7.29 A. Hall
995	2nd „ ...	90	2	8				63	12	2	0			do	do	do	18.7.29 do
994	3rd „ ...	90	1	10				63	5	0	0			do	do	do	18.7.29 do
	Collective weight.	271	2	0								244	2	0			
997	Stream .....	32	3	9				30	3	11	14	31	0	0	do	do	19.7.29 do

CHAIN CABLES.														HAWSERS AND WARPS.							
Number of Certificate.	Length and size supplied.		Test per Certificate.		WEIGHT OF CHAIN CABLE.				Length and Size per Table 53.		Description.	Makers of Cables.	Where and when tested, and Superintendent.	Material.	Length and Size supplied.		Breaking Test of Steel Wire.	Length and Size per Table 53.			
	Length.	Diam.	Stations.	Break- ing.	Supplied.		Per Rule.		Length.	Diam.					Length.	Cir.		Length.	Cir.	Length.	Cir.
	Fathoms.	Ins.	Tons.	Tons.	Cwts.	qrs.	lbs.	Cwts.	Fathoms.	Ins.					Fathoms.	Ins.	Tons.	Fathoms.	Ins.		
85399	150	2 7/16	116.7	163.38	497.0	6	493.	✓	300	2 7/16	Standard Hinglyson	Keltherton	24.4.29 H.G.	TOWLINE...	130	6	95	130	6		
85401	150	2 7/16	116.7	163.38	497.2	19	493.				do	ditto.	do	2.5.29 H.G.	HAWSERS & WARPS }	200	3	18	200	2 3/4	
85421	26 fms	2 7/16 Cir.	116.7	163.38	15.2.24						do	ditto.	do	3.5.29 H.G.		200	2 3/4	15 1/2	200	2 3/4	
85422	26 fms				15.2.21								do	ditto.		do	3.5.29 H.G.				
Iron Stream Chain or Steel Wire	120	1 3/8	34.0	51.0	116.1	0	116		120	1 3/8	do	ditto.	do	3.5.29 H.G.							

Steering Gear, Steam *Hartie's Electro-Hydraulic, 4 Rams, 2 Motors* Steering Gear, Hand *Hand gear operating steam motor.*  
Boats *28' 6" Life boats* Steering Chains, Size and Test *Selenotor gear.* Windlass *Clark Chapman, Electric*  
*One 28' motor life boat, this collapsible, one Tenna.*  
Ceiling in Holds, thickness and material *2 1/2" pine on 2" battens.* Cargo Battens, thickness, material and spacing *6"x2" pine, 8" apart.*  
Cargo Hatchways.—(Upper Deck) *33" Steel Coaming .44" x .50" thick.* Thickness of Hatches *3"*  
Size of No. 1 Hatchway (Forward) *20' 3" x 18' 0"* No. 2 *27' 6" x 18' 0"* No. 3 *16' 6" x 18' 0"* No. 4 *24' 9" x 18' 0"* No. 5 *19' 3" x 18' 0"* No. 6  
Number of Shifting Beams *and Fore and Afters* *no. 1 = 3; no. 2 = 5; no. 3 = 3; no. 4 = 4; no. 5 = 3.*

Builder's Signature

GENERAL DECLARATION. It should be stated (a) whether the vessel is fitted for the carriage and burning of oil used as fuel *yes* (b) whether the vessel, not being an oil tanker, is fitted for carrying oil as cargo *no* The positions in which oil is carried as fuel or cargo should be indicated, together with the flash point.

*This vessel has been built in accordance with the approved plans and instructions as well as with the printed rules. The materials and workmanship are satisfactory: the frames have been tested as required by the rules. The freeboard has been verified and cut in on the vessel's side.*

*The double bottom deep tanks, peak tanks, bulkheads, tunnels, local deck tanks & scuppers, watertight doors, tarpaulins, have been tested as required by rules.*

*The requirements of section 20 of the rules have been complied with & oil fuel is to be carried in nos 3, 4, 6 & 7 double bottom tanks and in deep tanks forward of the engine room.*

*In my opinion vessel is entitled to the notations: "Fitted for Oil fuel 3.30, flash point above 150°F"; "Lloyd's Arch."; "Wireless Electric Light"; "Part Can"*

The amount of Entry Fee ..... *£ 110:00* : Fees applied for, *20 March 1930*  
Special Survey Fee.... *£ 6681:00* : Received by me, *30/3/1930*  
*including machinery*  
Travelling Expenses if any *£ 534 60* :

I am of opinion the Vessel should be Classed

*100A1*

*"with freeboard"*

State whether the Vessel has been built under Special Survey *yes*

Signature

*Surveyor to Lloyd's Register of Shipping.*

Certificate to be sent to *Builder.*

Date of issue

Committee's Minute

*TUE. 29 APR 1930*

*TUE. 13 MAY 1930*

Character assigned

*+ 100A1 With freeboard,*

*WED. 8 APR 1930*

*Write (M) Lloyd's arch, + Lmb 3.30 L.  
oil sup. Elec. Lt.  
2 DB-100th*

*TUE. 28 OCT 1930  
FRI. 17 APR 1930*

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Lloyd's Register  
Foundation

009711-004720-0120 2/2



GENERAL REMARKS—(The Surveyor should state the Number of Report and Name of any Sister Vessel. Plans showing Vessel as built should be forwarded and a List of the Plans should be embodied.)

The following plans of paper are forwarded with this report—

- ① Midship section, as built,
- ② Profile & deck plans, as built, (two sheets)
- ③ Steel advice notes.
- ④ Copies of lashing certificates

There is no sister vessel to this ship.

Particulars of **Drop Test** of Cast Steel Anchors, viz.:—  
Weight, Surveyor's Initials, Number of Certificate, Date of Test.

1st Bower	51.3.8	aw.	996	Kobr	17.7.29
2nd "	51.2.23	aw.	995	Kobr	18.7.29
3rd "	51.3.7	aw.	994	Kobr	18.7.29
Stream	18.3.19	aw.	997	Kobr	19.7.29

**PARTICULARS FOR RECORD in the REGISTER BOOK.**—Length of Poop \_\_\_\_\_ ft., R.Q.D. \_\_\_\_\_ ft., Bridge 57.8 ft., Forecastle 46.5 ft.

(in feet and tenths). When the Poop is joined to the B.D., this should be distinctly stated

No. and Material of Decks (this information is to be given as it should appear in the Register Book) 3 decks steel

Official No. 35365

; Signal Letters V.C.G.N.

Is bottom of Vessel coated with cement part if not give

particulars of composition

#### PARTICULARS OF WATER BALLAST.—

Where Fitted.	*Length. Feet.	Water Capacity. Tons.	Where Fitted.	*Length. Feet.	Water Capacity. Tons.
Double bottom, aft, ✓	110	333.8	Fore peak tank,	23.75	106.1
Double bottom, under Engines and Boilers, ✓	77	531.4	After peak tank,	25.0	85.6
Double bottom, if under Engines only, ✓	196.8	730.9	Deep tank, aft, D.T.a	8.25	217.1
Double bottom, if under Boilers only, ✓			Deep tank, forward, Divided into six tanks of	35.75	1888.9
Double bottom, forward, ✓			Other tanks, if fitted, being Tanks aft. Fw. a Ballast.	22.0	74.6
		Total capacity of double bottom 1596.1	(If necessary, furnish further information by sketch.)		

\* The wells are not to be included in the lengths of the tanks.  
383.9

Order for Special Survey No. 29

Date 2 June 1928

Dates of Surveys held while building

Dec 1928 - 4, 11, 13, 20, 28	May 1929, 2, 9, 15, 22, 27	Oct 1929, 3, 5, 8, 12, 24	March 5, 10, 11
Jan 1929 - 7, 9, 15, 25, 30	June 4, 26, 28	November 8	15, 17, 19
Feb. 4	July 3, 6, 9, 12, 16, 19, 23, 26, 29	Dec 23	
March 1, 6, 11, 14, 20	Aug. 1, 5, 8, 9, 13, 21, 27, 30	Jan 1930, 15, 21, 30	
April 2, 15, 19, 26	Sept 3, 6, 11, 14, 16, 17, 19, 21, 25, 28, 30	Feb. 12, 21, 24, 28	

Total No. of Visits 76