

MARU

pt. 4.

# REPORT ON MACHINERY.

No. 3051

Received at London Office

MON: 21 FEB. 1921

in Brackets to Bulkheads.

Date of writing Report		19 When handed in at Local Office		19 Port of Kobe	
Survey held at Osaka + Imoshima		Date, First Survey Apr. 10 <sup>th</sup> 1920		Last Survey Nov. 8 <sup>th</sup> 1920	
on the Steel Single Screw Steamer "SEIKAI MARU"		(Number of Visits 30)		Tons { Gross 3179.39 Net 1958.15	
Built at Bingo yard Imoshima		By whom built Osaka Iron Works Shipbuilding Dept.		When built 1920	
Engines made at Hoku yard Imoshima		By whom made Osaka Iron Works Shipbuilding Dept.		when made 1920	
Milers made at Osaka		By whom made Osaka Iron Works		when made 1920	
Registered Horse Power		Owners Osaka Shosen Kaisha		Port belonging to Osaka	
m. Horse Power as per Section 28 288		Is Refrigerating Machinery fitted for cargo purposes no		Is Electric Light fitted yes	
GINES, &c.—Description of Engines		Triple Expansion		No. of Cylinders Three No. of Cranks 3	
a. of Cylinders 22" : 37" : 61"		Length of Stroke 42"		Revs. per minute 79	
Dia. of Screw shaft as per rule 12.77		Material of screw shaft steel		as fitted 13"	
the screw shaft fitted with a continuous liner the whole length of the stern tube		yes		Is the after end of the liner made water tight	
the propeller boss yes		If the liner is in more than one length are the joints burned ✓		If the liner does not fit tightly at the part	
between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive		Good fit		If two	
are fitted, is the shaft lapped or protected between the liners		Length of stern bush 4'-9"		✓	
a. of Tunnel shaft as per rule 11.2		Dia. of Crank shaft journals as per rule 11.76		Dia. of Crank pin 12"	
as fitted 11 3/8"		as fitted 12"		Size of Crank webs 5 1/2 x 7 1/2"	
Dia. of screw 12"		Pitch of Screw 16'-0"		No. of Blades 4	
State whether moveable no		Total surface 80 1/2		Dia. of thrust shaft under	
a. of Feed pumps 2		Diameter of ditto 3 1/4"		Stroke 24"	
Can one be overhauled while the other is at work		yes ✓			
a. of Bilge pumps 2		Diameter of ditto 3 1/2"		Stroke 24"	
Can one be overhauled while the other is at work		yes ✓			
a. of Donkey Engines 3		Sizes of Pumps 8 1/2 x 6 x 18"		6 x 4 x 6"	
No. and size of Suctions connected to both Bilge and Donkey pumps		In Holds, &c. Nos. 1, 2 + 3		Holds 2 each 3"	
Engine Room 3 @ 3"		In tunnel Well 2 1/2"			
a. of Bilge Injections 1		sizes 4 1/2"		Connected to condenser, or to circulating pump ✓	
Is a separate Donkey Suction fitted in Engine room & size		1 @ 3"		✓	
all the bilge suction pipes fitted with roses		yes		Are the roses in Engine room always accessible ✓	
Are the sluices on Engine room bulkheads always accessible ✓					
all connections with the sea direct on the skin of the ship		yes		Are they Valves or Cocks Both ✓	
Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates		yes		Are the Discharge Pipes above or below the deep water line above ✓	
Are they each fitted with a Discharge Valve always accessible on the plating of the vessel		yes		Are the Blow Off Cocks fitted with a spigot and brass covering plate ✓	
What pipes are carried through the bunkers		None		How are they protected ✓	
all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times		yes ✓			
the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges		yes ✓			
the Screw Shaft Tunnel watertight		yes		Is it fitted with a watertight door ✓	
Manufacturers of Steel		Illinois St. & L. Spencer Sons, Lukens St. & Carnegie Steel Co.		John Marshall, Imperial Steel Co., Allegheny Steel Co.	
HEATING SURFACE OF BOILERS 3824		Is Forced Draft fitted yes		No. and Description of Boilers Two S. & C. Scotch	
Working Pressure 180 lbs.		Tested by hydraulic pressure to 360 lbs.		Date of test 17-5-20	
No. of Certificate					
Can each boiler be worked separately		yes		Area of fire grate in each boiler 45.00'	
No. and Description of Safety Valves to					
h boiler 2 Spring loaded		Area of each valve 8.290"		Pressure to which they are adjusted 185 lbs.	
Are they fitted with easing gear		yes			
Smallest distance between boilers or uptakes and bunkers or woodwork 1'-6"		Mean dia. of boilers 13'-6"		Length 11'-5"	
Material of shell plates steel					
Range of tensile strength 26-32 tons		Are the shell plates welded or flanged no		Descrip. of riveting: cir. seams Ends double	
g. seams Double riveted		Diameter of rivet holes in long. seams 1 1/16"		Pitch of rivets 9"	
Lap of plates or width of butt straps 9 1/2" x 1 1/4"					
Percentages of strength of longitudinal joint		rivets 85.41		Working pressure of shell by rules 5.193 lbs.	
Size of manhole in shell 12" x 16"					
No. and Description of Furnaces in each boiler 3 Morrison's		Material steel		Outside diameter 40 1/4"	
Length of plain part top		Thickness of plates crown 1/2"		Description of longitudinal joint Welded	
No. of strengthening rings					
Working pressure of furnace by the rules 187 lbs.		Combustion chamber plates: Material steel		Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 7/8"	
Pitch of stays to ditto: Sides 6 1/2" x 8 1/2"		Back 8 1/2" x 8 1/2"		Top 6 1/2" x 10 1/4"	
If stays are fitted with nuts or riveted heads		nuts		Working pressure by rules 183 lbs.	
Material of stays steel		Area at smallest part 11.790"		Area supported by each stay 73.650"	
Working pressure by rules 218 lbs.		End plates in steam space:			
Material steel		Thickness 1 3/8"		Pitch of stays 19" x 25"	
How are stays secured 8 1/2" x 3/4"		Working pressure by rules 181 lbs.		Material of stays steel	
Area at smallest part 10.120"		Area supported by each stay 4930"		Working pressure by rules 213 lbs.	
Material of Front plates at bottom steel					
Thickness 1"		Material of Lower back plate steel		Thickness 1"	
Greatest pitch of stays 9 1/2" x 18"		Working pressure of plate by rules 216 lbs.			
Diameter of tubes 3"		Pitch of tubes 4 1/4" x 4 3/8"		Material of tube plates steel	
Thickness: Front 1"		Back 3/4"		Mean pitch of stays 8 1/2" x 8 3/4"	
Pitch across wide water spaces 14"		Working pressures by rules 182 lbs.		Girders to Chamber tops: Material steel	
Depth and					
Thickness of girder at centre 10" x 1 3/4"		Length as per rule 2'-8"		Distance apart 10 1/4"	
Number and pitch of stays in each 3 @ 6 1/2"					
Working pressure by rules 207 lbs.		Steam dome: description of joint to shell		✓	
% of strength of joint					
Diameter		Thickness of shell plates		Material	
Description of longitudinal joint		Diam. of rivet holes			
Pitch of rivets		Working pressure of shell by rules		Crown plates	
Thickness		How stayed			
SUPERHEATER. Type		Date of Approval of Plan		Tested by Hydraulic Pressure to	
Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler					
Diameter of Safety Valve		Pressure to which each is adjusted		Is Easing Gear fitted	

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IS A DONKEY BOILER FITTED?

no

If so, is a report now forwarded?

✓

SPARE GEAR. State the articles supplied:—

2 Connecting rod top end bolts + nuts.  
2 Connecting rod bot. end " "  
2 Main bearing bolts + nuts  
1 Set coupling bolts + nuts.  
1 Set of feed + budge pump valves.  
1 Set each of H.P. & L.P. piston packing rings.  
A quantity of assorted bolts + nuts.  
Iron of various sizes.  
1 pair connecting rod brasses.  
1 pair top end brasses.  
1 Slide valve spindle.

1 Eccentric rod  
10 Junk ring bolts + nuts.  
1 Air pump rod.  
1 Circulating pump rod  
3 Feed check valves.  
2 Safety valve springs.  
4 Cylinder escape valve springs.  
36 Condenser tubes.  
14 Cylinder cover studs + nuts.  
1 Set metallic packing for H.P. piston rod.  
2 Sets metallic packing for H.P. valve spindle.

10 boiler tubes

A quantity of spare gear for the various auxiliary machinery.

The foregoing is a correct description,

H. Sasaki

OSAKA IRON WORKS. LTD.,

Manufacturer.

Dates of Survey while building  
During progress of work in shops -- 1920 Apr. 10, 19, 22; May 3, 5, 8, 13, 14, 17, 19, 24, 25, 26; June 5, 9, 23, 28; Aug. 6, 30; Sept. 20, 27; Oct. 4, 11, 13, 15, 20; Nov. 2, 8.  
During erection on board vessel --  
Total No. of visits 30

Is the approved plan of main boiler forwarded herewith yes

" " " donkey " " " ✓

Dates of Examination of principal parts—Cylinders 24-5-20 Slides 24-5-20 Covers 26-5-20 Pistons 26-5-20 Rods 5-6-2

Connecting rods 5-6-20 Crank shaft 3-3-20 Thrust shaft 30-8-20 Tunnel shafts 30-8-20 Screw shaft 30-8-20 Propeller 28-6-

Stern tube 28-6-20 Steam pipes tested 15-10-20 Engine and boiler seatings 12-8-20 Engines holding down bolts 1-10-2

Completion of pumping arrangements 30-9-20 Boilers fixed 6-10-20 Engines tried under steam 20-10-20

Completion of fitting sea connections 12-10-20 Stern tube 8-9-20 Screw shaft and propeller 19-9-20

Main boiler safety valves adjusted 18-10-20 Thickness of adjusting washers Lock nuts.

Material of Crank shaft Steel Identification Mark on Do. LLOYD'S 3-3-20 Material of Thrust shaft Steel Identification Mark on Do. LLOYD'S 30-8-20

Material of Tunnel shafts Steel Identification Marks on Do. LLOYD'S 11-11-19: 18-11-19: 12-12-19 Material of Screw shafts Steel Identification Marks on Do. LLOYD'S 11-11-19: 18-11-19: 12-12-19

Material of Steam Pipes Steel Test pressure 540 lbs per sq"

Is an installation fitted for burning oil fuel no

Is the flash point of the oil to be used over 150°F. ✓

Have the requirements of Section 49 of the Rules been complied with ✓

Is this machinery duplicate of a previous case

If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.

The amount of Entry Fee ... Yen 30.- :  
Special ... £ 602.- :  
Donkey Boiler Fee ... £ :  
Travelling Expenses (if any) £ 100 :  
When applied for, Nov. 5<sup>th</sup> 1920  
When received, 12/11/20

Committee's Minute

TUE. 11 MAR. 1921

Assigned

+ L.M. 6.11.20

L.D.

J. G. Fry

H. Lawson.

Engineer Surveyors to Lloyd's Register of Shipping.



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