

MARU

pt. 4.

REPORT ON MACHINERY.

No. 3051

Received at London Office

MON: 21 FEB. 1921

in Brackets to Bulkheads.

Diameter. Inches.

of writing Report 19 When handed in at Local Office 19 Port of Kobe

in Survey held at Osaka + Imoshima Date, First Survey Apr. 10th 1920 Last Survey Nov. 8th 1920

g. Book. on the Steel Single Screw Steamer "SEIKAI MARU" (Number of Visits 30)

Master Built at Birgo Yard Imoshima By whom built Osaka Iron Works Shipbuilding Dept. When built 1920

Engines made at Habu Yard Imoshima By whom made Osaka Iron Works Shipbuilding Dept. when made 1920

Valves made at Osaka By whom made Osaka Iron Works when made 1920

Registered Horse Power Owners Osaka Shosen Kaisha Port belonging to Osaka

nom. 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

dia. of Cylinders 22" : 37" : 61" Length of Stroke 42" Revs. per minute 79 Dia. of Screw shaft 12.77 Material of steel

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

shafts are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 4'-9"

dia. of Tunnel shaft 11.2 as per rule 11.3/8 Dia. of Crank shaft journals 11.76 as per rule 12" Dia. of Crank pin 12" Size of Crank webs 5 1/2 x 7 1/2 Dia. of thrust shaft under

bars 12" Dia. of screw 16'-0" Pitch of Screw 16'-0" No. of Blades 4 State whether moceable no Total surface 80^{sq}

of Feed pumps 2 Diameter of ditto 3 1/4" Stroke 24" Can one be overhauled while the other is at work yes ✓

of Bilge pumps 2 Diameter of ditto 3 1/2" Stroke 24" Can one be overhauled while the other is at work yes ✓

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

Engine Room 3 @ 3" In Holds, &c. Nos. 1, 2 + 3 Holds 2 each 3"

in tunnel Well 2 1/2"

of Bilge Injections 1 sizes 4 1/2" Connected to condenser, or to circulating pump in pp. Is a separate Donkey Suction fitted in Engine room & size 1 @ 3"

Are all the bilge suction pipes fitted with roses yes Are the roses in Engine room always accessible yes Are the sluices on Engine room bulkheads always accessible ✓

Are 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 yes

What pipes are carried through the bunkers None How are they protected ✓

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yes

Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from Eng. Rm. top platform

MANUFACTURERS, &c.—(Letter for record S) Manufacturers of Steel Illinois Stl. Co. J. Spence Sons, Lukens Stl. Co. Carnegie Steel Co. John Marshall, Imperial Steel Co., Allegheny Steel Co.

Total Heating Surface of Boilers 3824^{sq} Is Forced Draft fitted yes No. and Description of Boilers Two S. & Scotch

Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 17-5-20 No. of Certificate LLOYD'S TEST WT. 360 LBS. WT. 180 LBS. WT. 90 LBS. WT. 45 LBS.

Can each boiler be worked separately yes Area of fire grate in each boiler 45.0^{sq} No. and Description of Safety Valves to

each boiler 2 Spring loaded Area of each valve 8.29^{sq} 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

Forecastle 32 thickness 1 1/2" 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 straps Diameter of rivet holes in long. seams 1 5/16" 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 85.25 Working pressure of shell by rules 5.193 lbs. Size of manhole in shell 12" x 16"

of compensating ring Plate flanged 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"

Cellular Material of stays steel Area at smallest part 11.79^{sq} Area supported by each stay 73.65^{sq} Working pressure by rules 218 lbs. End plates in steam space:

Material steel Thickness 1 3/8" Pitch of stays 19" + 25" How are stays secured 8 1/2 x 3/4" IN+W Working pressure by rules 181 lbs. Material of stays steel

Area at smallest part 10.12^{sq} Area supported by each stay 493^{sq} 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" + 18" Working pressure of plate by rules 216 lbs.

Diameter of tubes 3" Pitch of tubes 4 1/4" + 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

of Visits 30 SUPERHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to

Date of Test 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

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 + bilge pump valves.
- 1 Set each of H.P.I.P.L.P. piston packing rings.
- 9 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.

1920
 Dates of Survey while building { During progress of work in shops - - 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. 1, 4 }
 { During erection on board vessel - - - Oct. 11, 13, 15, 20; Nov. 2, 8. }
 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 5-6-20
 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 28-6-20
 Stern tube 28-6-20 Steam pipes tested 15-10-20 Engine and boiler seatings 12-8-20 Engines holding down bolts 1-10-20

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 S.T.P.R. Material of Thrust shaft Steel Identification Mark on Do. LLOYD'S 18-11-19 Y.J.R.

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

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.)

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Certificate (if required) to be sent to
 The Surveyors are requested not to write on or below the space for Committee's Minute.

The amount of Entry Fee ... Yes 30.- : When applied for.
 Special ... £ 602.- : Nov. 5th 1920
 Donkey Boiler Fee ... £ :
 Travelling Expenses (if any) £ 100 : 12/16/20

J. G. Fry W. Lawson.
 Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute TUE. 1 MAR. 1921
 Assigned + L.M.B. 11.20
 L.D.

