

REPORT ON MACHINERY.

No. 3595

Received at London Office

Date of writing Report 5th JUNE 1922 When handed in at Local Office

Port of KOBE

No. in Survey held at KOBE
Reg. Book.Date, First Survey FEB 5. 1920 Last Survey JUNE 2nd 1922

(Number of Visits 127.)

on the STEEL SINGLE SCREW STEAMER

"BELFAST MARU"

Gross 6586.

Net 4038.

When built 1922

Master

Built at KOBE

By whom built Kawasaki Dockyard Co. Ltd.

Engines made at KOBE

By whom made Kawasaki Dockyard Co. Ltd.

when made 1922

Boilers made at "

By whom made " " " "

when made 1922.

Registered Horse Power

Owners

Port belonging to KOBE

Nom. Horse Power as per Section 28 578.

Is Refrigerating Machinery fitted for cargo purposes No.

Is Electric Light fitted Yes.

ENGINES, &c.—Description of Engines

Triple Expansion

No. of Cylinders 3.

No. of Cranks 3.

Dia. of Cylinders 28 + 46½ + 78" Length of Stroke 54" Revs. per minute 70 normal

Dia. of Screw shaft as per rule 16.65, Material of 35.
as fitted 17. screw shaft

Is the screw shaft fitted with a continuous liner the whole length of the stern tube Without liners Is the after end of the liner made water tight

in the propeller boss Yes If the liner is in more than one length are the joints burned Yes 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 Yes

Shafting. An Oil Packing Gland of Kawasaki Dockyard Type is fitted at aft end of Tail Shaft. If two

liners are fitted, is the shaft lapped or protected between the liners

Length of stern bush 71

Dia. of Tunnel shaft as per rule 14.8, as fitted 15. Dia. of Crank shaft journals as per rule 15.56, as fitted 15¾. Dia. of Crank pin 16 Size of Crank webs 29" x 10" shaped

collars 15¾. Dia. of screw 18-0 Pitch of Screw 21-6 No. of Blades 4 State whether moveable Yes Total surface 120 ft expanded.

No. of Feed pumps One Diameter of ditto 5½" Stroke 27" Can one be overhauled while the other is at work Yes with Weir Pumps.

No. of Bilge pumps Two Diameter of ditto 5½" Stroke 27" Can one be overhauled while the other is at work Yes.

No. of Donkey Engines Four Sizes of Pumps: BALL PUMP 10 x 11 x 12 dup No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room—Three 3½ GEN. SERV. 7½ x 5 x 6 " In Holds, &c. Nos. 1, 3 & 4 Holds—two 3½; No. 2 Hold—two 4";

In Eng. Rm. Well—One 3½ WEIR'S FEED. 10½ x 8 x 24 two In Tunnel Well—one 3½

In Coffin Dam aft of No. 3 Tank—One 3½ OIL TRANSF. 10 x 7 x 10 dup. A.F. SODENALD Two 7 x 5 x 12 "SINGLES.

No. of Bilge Injections 2 sizes 12¾. Connected to condenser, or to circulating pump Circ. P. Is a separate Donkey Suction fitted in Engine room & size Yes: 3½.

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 None.

Are all connections with the sea direct on the skin of the ship Yes. Are they Valves or Cocks Larger Valves; Smaller—Cocks.

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 21' below

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 Bilge Suctions How are they protected Wood covering.

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 Upper Dk platform of L. Room.

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Illinois; Carnegie; Fukiai & Hyogo Wks. of Kawasaki Dockyard.

Total Heating Surface of Boilers 7800 Is Forced Draft fitted Yes. No. and Description of Boilers Three Single Ended Scotch.

Working Pressure 200. Tested by hydraulic pressure to 350 Date of test 4-3-22, 15-3-22, 24-3-22 No. of Certificate 11075 TEST WT 850 LBS

Can each boiler be worked separately Yes Area of fire grate in each boiler 63.25 sq. ft. No. and Description of Safety Valves to

each boiler Two Spring Loaded Area of each valve 11 in Pressure to which they are adjusted 205 Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 2'3" Mean dia. of boilers 15'7½" Length 12'0" Material of shell plates STEEL

Thickness 13/16 Range of tensile strength 28-32 TONS Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams Extra dble

long. seams Dble BUTT STRAPS Diameter of rivet holes in long. seams 1 1/32 Pitch of rivets 9 3/4 x 4 7/8 Lap of plates on Width of butt straps 21 3/8

Per centages of strength of longitudinal joint rivets 100 plate 84.2 Working pressure of shell by rules 202. Size of manhole in shell 16 x 12

Size of compensating ring 33 x 37 x 1 1/16 No. and Description of Furnaces in each boiler 3 MORISON'S SUSPENSION Material Steel Outside diameter 50 1/4

Length of plain part top bottom Thickness of plates crown 1 1/16 Description of longitudinal joint welded No. of strengthening rings

Working pressure of furnace by the rules 216 Combustion chamber plates: Material Steel Thickness: Sides 1 1/16 Back 1 1/16 Top 1 1/16 Bottom 7/8

Pitch of stays to ditto: Sides 8 7/8 x 8 1/2 Back 9 1/4 x 8 1/4 Top 8 7/8 x 8 1/2 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 208.

Material of stays Steel Area at smallest part 2.10 Area supported by each stay 78.13 Working pressure by rules 242 End plates in steam space:

Material Steel Thickness 1 1/16 Pitch of stays 17 x 15 1/4 How are stays secured dble nuts & washers Working pressure by rules 205 Material of stays Steel

Area at smallest part 6.33 Area supported by each stay 260.8 Working pressure by rules 252 Material of Front plates at bottom Steel

Thickness 13/16 Material of Lower back plate Steel Thickness 3/4 with dble 5/8 Greatest pitch of stays 9 1/4 x 8 1/4 Working pressure of plate by rules 309

Diameter of tubes 9 3/4 BWG Pitch of tubes 4 1/2 x 4 5/16 Material of tube plates Steel Thickness: Front 13/16 with dble 5/8 Back 13/16 Mean pitch of stays 9 x 8 5/8.

Pitch across wide water spaces 13 3/4 Working pressures by rules 240 Girders to Chamber tops: Material Stl. Depth and

thickness of girder at centre Two 10 1/4 x 13/16 Length as per rule 35 1/8 Distance apart 8 1/2 Number and pitch of stays in each Three @ 8 1/2 8 7/8

Working pressure by rules 232 Steam dome: description of joint to shell NONE. % 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 Schmidt Date of Approval of Plan Tested by Hydraulic Pressure to 600 LBS.

Date of Test 7-9-21, 24-9-21, 1-10-21 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes.

Diameter of Safety Valve 3 Pressure to which each is adjusted 210 lbs. Is Easing Gear fitted Yes

Lloyd's Register

FQW 542-0075

IS A DONKEY BOILER FITTED? No.

If so, is a report now forwarded? ☒

SPARE GEAR. State the articles supplied:—

1 Set Packing rings for all Pistons & Piston Valves	4 Main Brg Bolts & nuts	1 Set A.P. Head Valve
15 Studs & nuts for Junk Rings	1 Slide Valve Rod of each Side	3 Safety Valve Spring
1 pair Lee Rods.	1 Set Feed Check Valves & Seats	1 Set Feed & Bilge Pump Valves & Seats
1 Propeller Shaft with Nut.	1 Centrif Pump Impeller Shaft	Condr. tubes & ferrules bolts & nuts
2 Bolts & nuts for Conn. Rod t.d. & ends	1 Set Crosshd. & Crank-pin Brasses	Oil burning sprays
9 Shaft Coupling Bolts & nuts.	1 Air Pump Rod & Nut	Superheater tubes

The foregoing is a correct description,

Kawasaki Dockyard Co. Ltd.

By

Secretary.

Manufacturer.

1920
Dates of Survey while building
During progress of work in shops - FEB. 5, 12, 17, 27; MAR. 26, 30; APR. 6, 29, 30; MAY 4, 6, 10, 13, 15, 29, 31; JUNE 1, 2, 5, 7, 14, 15, 23, 25; JULY 28, 9, 14, 16, 24
During erection on board vessel - JAN. 12, 15, 19, 21, 22; FEB. 2, 21, 28; MAR. 23; APR. 9, 10, 12, 14, 20; MAY 3, 4, 10, 12, 16; JUNE 9, 11, 18, 22, 28; JULY 1, 6; AUG. 12
Total No. of visits 127.
Is the approved plan of main boiler forwarded herewith YES

Dates of Examination of principal parts—Cylinders 12-18-11-21 Slides 30-3-22 Covers 5-11-21 Pistons 22-1-21 Rods 30-3-22
Connecting rods 13-12-21 Crank shaft 5-11-21 Thrust shaft 5-11-21 Tunnel shafts 10-5-21 Screw shaft 11-6-21 Propeller 10-12-21
Stern tube 16-11-21 Steam pipes tested 28-4-21 Engine and boiler seatings 2-2-22 Engines holding down bolts 5-5-22
Completion of pumping arrangements 15-5-22 Boilers fixed 5-5-22 Engines tried under steam 16-5-22 + 1-6-22
Completion of fitting sea connections 12-7-22 Stern tube 23-12-21 Screw shaft and propeller 12-1-22
Main boiler safety valves adjusted 5-5-22 Thickness of adjusting washers Lock nuts.

Material of Crank shaft F. Steel Identification Mark on Do. LLOYDS 5-11-21 AW R
Material of Thrust shaft F. Steel Identification Mark on Do. LLOYDS 5-11-21 AW R
Material of Tunnel shafts F. Steel Identification Marks on Do. LLOYDS 10-5-21 AW R
Material of Screw shafts F. Steel Identification Marks on Do. LLOYDS 11-6-21 AW R
Material of Steam Pipes Steel. Test pressure 600 lb. sq. in.

Is an installation fitted for burning oil fuel Yes Is the flash point of the oil to be used over 150°F. Yes

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

Is this machinery duplicate of a previous case Yes If so, state name of vessel FUJI MARU 3143
BALTIMORE MARU 3165
WALES MARU 3383

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

The Machinery has been made and fitted under Special Survey in accordance with the requirements of the Rules & the materials and workmanship are good. The machinery worked satisfactorily on trial.

The machinery of this vessel is eligible, it is submitted for the notation + L.M.C. 5.22 and "Fitted for oil fuel 5.22 (F.P. above 150°; Blue Prints of "Boiler" & "Oil Fuel Pumping & Piping Arrangement" are sent herewith.

It is submitted that this vessel is eligible for THE RECORD.

+ L.M.C. - 6.22. F.D. O.G.

Fitted for oil fuel, 6.22, F.P. above 150° F.

The amount of Entry Fee ... Yen 60.-
Special ... £ 1560.-
ELECTRIC LIGHT INST. SURVEY. 240.-
Travelling Expenses (if any) £ :
When applied for, May 28th 1922
When received, June 12th 1922.

Committee's Minute

Assigned

FRI JUL 14 1922

+ L.M.C. 6.22 F.D. O.G.
Fitted for oil fuel 6.22 F.P. above 150° F.

Engineer Surveyor to Lloyd's Register of Shipping.

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