

REPORT ON MACHINERY.

No. 2499

Received at London Office

FRI. 22 AUG. 1919

Date of writing Report 12-7-1919 When handed in at Local Office

Port of Yokohama

No. in Survey held at Uraga

Date, First Survey 4-1-19

Last Survey 26-6-1919

Reg. Book on the STEEL S.S. KOYO MARU

(Number of Visits 32)

Gross 5458.93
Net 3287.37

Master Built at URAQA By whom built URAQA DOCK CO

When built 1919

Engines made at URAQA By whom made URAQA DOCK CO

when made 1919

Boilers made at URAQA By whom made URAQA DOCK CO

when made 1919

Registered Horse Power Owners TOYO KISEN KAISHA

Port belonging to YOKOHAMA

Nom. Horse Power as per Section 28 442.513

Is Refrigerating Machinery fitted for cargo purposes NO

Is Electric Light fitted YES

ENGINES, &c.—Description of Engines Reciprocating Triple No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 26 x 43 1/2 x 72 Length of Stroke 48 Revs. per minute 80 Dia. of Screw shaft as per rule 14.55 Material of screw shaft as fitted 16

Is 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 in 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 yes

If two liners are fitted, is the shaft lapped or protected between the liners — Length of stern bush 9 7/8 x 5 1/2 x 13 1/4

Dia. of Tunnel shaft as per rule 13 1/2 Dia. of Crank shaft journals as per rule 14.17 Dia. of Crank pin 1 1/4 Size of Crank webs Dia. of thrust shaft under collars 1 1/2 Dia. of screw 17.9 Pitch of Screw 19.0 No. of Blades 4 State whether moceable no Total surface 964

No. of Feed pumps 2 Diameter of ditto 5 Stroke 24 Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 5 Stroke 24 Can one be overhauled while the other is at work yes

No. of Donkey Engines 4 Sizes of Pumps 1-8 x 6 x 8 19 x 12 x 10 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room + Boiler Room 6-4 1/2 x 8 1/2 In Holds, &c. No. 1-3 1/2 No. 2-2-3 1/2 No. 3-2-3 1/2

No. 4 2-3 1/2 A. Well 1-3 A. Peak 1-3

No. of Bilge Injections 1 sizes 5 Connected to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size 4 1/2

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 plus

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 — 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 Deck

BOILERS, &c.—(Letter for record (S) Manufacturers of Steel North Bros Co.

Total Heating Surface of Boilers 7876 1/2 Is Forced Draft fitted yes No. and Description of Boilers 3 Scotch Type Marine

Working Pressure 200 Tested by hydraulic pressure to 400 Date of test 20.5.19 No. of Certificate 49

Can each boiler be worked separately yes Area of fire grate in each boiler 59.6 No. and Description of Safety Valves to each boiler 2 spring loaded Area of each valve Pressure to which they are adjusted 200 Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork — Mean dia. of boilers 14.43 1/2 Length 11.6 Material of shell plates S

Thickness 1 1/2 Range of tensile strength 60,000 Are the shell plates welded or flanged — Descrip. of riveting: cir. seams R

long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1 1/2 Pitch of rivets 9/8 Lap of plates or width of butt straps 22

Per centages of strength of longitudinal joint rivets 94.3 Working pressure of shell by rules 212 Size of manhole in shell 16 x 12

plate 84.8

Size of compensating ring — No. and Description of Furnaces in each boiler 3 horizontal Material S Outside diameter 46

Length of plain part top — Thickness of plates crown 3/4 Description of longitudinal joint welded No. of strengthening rings — bottom — 3/4

Working pressure of furnace by the rules 273.7 Combustion chamber plates: Material S Thickness: Sides 1/8 Back 1/8 Top 1/8 Bottom 1/8

Pitch of stays to ditto: Sides 10 1/2 x 8 1/2 Back 8 1/2 x 8 1/2 Top 9 1/2 x 8 1/2 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 205

Material of stays S Area at smallest part 2.03 Area supported by each stay 78.2 Working pressure by rules 233 End plates in steam space:

Material S Thickness 1 3/16 Pitch of stays 16 1/2 x 13 1/4 How are stays secured D. nuts Working pressure by rules 204 Material of stays S

Area at smallest part 7.6 Area supported by each stay 309.375 Working pressure by rules 205 Material of Front plates at bottom S

Thickness 3/4 Material of Lower back plate S Thickness 3/4 Greatest pitch of stays 18 Working pressure of plate by rules 205

Diameter of tubes 3 Pitch of tubes 4 1/4 x 4 1/8 Material of tube plates S Thickness: Front 3/4 Back 3/4 Mean pitch of stays 18

Pitch across wide water spaces 18 1/2 Working pressures by rules 224.7 Girders to Chamber tops: Material S Depth and

thickness of girder at centre 1 3/4 x 8 1/2 Length as per rule 30.75 Distance apart 8 Number and pitch of stays in each 219 1/2

Working pressure by rules 257 Steam dome: description of joint to shell % of strength of joint

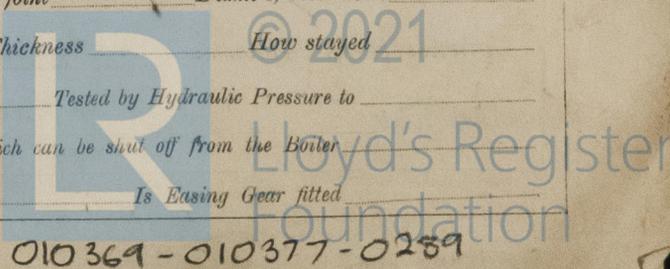
Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes

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

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?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: - 3 Bottom end bolts & nuts 4 top end bolts & nuts, 1 set main bearing bolts, 1 set shaft coupling bolts, 1 set of rings, 2 eccentric rods, 2 set top end cranks, 1 screwdown pump impeller & bronze shaft, 1 Air pump rod, 1 air valve, 1 set of valves & bolts & nuts.

The foregoing is a correct description,

Y. K. Kaminura Manufacturer.

Dates of Survey while building: During progress of work in shops - Jan. 4-27 Feb 7-19-24 Mar 3-10-19-20-25 Apr 1-8-14-17-22-30 May 3-8-14-26-28. During erection on board vessel - - - - - Ju 10-16. Total No. of visits 32.

Dates of Examination of principal parts: Cylinders May 3-5 Slides May 3 Covers May 3 Pistons May 3 Rods May 26. Connecting rods May 26 Crank shaft May 26 Thrust shaft May 26 Tunnel shafts May 26 Screw shaft May 26 Propeller May 26. Stern tube May 1 Steam pipes tested June 23 Engine and boiler seatings May 15 Engines holding down bolts June 23. Completion of pumping arrangements June 26 Boilers fixed June 23 Engines tried under steam June 26. Completion of fitting sea connections June 26 Stern tube June 26 Screw shaft and propeller June 26. Main boiler safety valves adjusted June 25 Thickness of adjusting washers Locknuts.

Material of Crank shaft S Identification Mark on Do. A Material of Thrust shaft S Identification Mark on Do. A. Material of Tunnel shafts S Identification Marks on Do. 26-5-19 Material of Screw shafts S Identification Marks on Do. 26-5-19. Material of Steam Pipes Steel Test pressure 6.0.

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? No.

General Remarks (State quality of workmanship, opinions as to class, &c.) The machinery and boiler of this vessel were constructed under special survey of materials tested to Rule Requirements and workmanship was found sound throughout. On completion the machinery was thoroughly tested under working conditions with satisfactory results. In the opinion of the undersigned the machinery is eligible to be allowed in the Register Book. LMC 6.19. Electric light.

It is submitted that this vessel is eligible for THE RECORD + LMC 6.19, F.D. Fitted for oil fuel 6.19, F.P. above 150°F. JWD 27/8/19. ARR

Certificate (if required) to be sent to YOKOHAMA

The amount of Entry Fee ... 430 : : When applied for Special ... 4050 : 25 : 27-6-1919 Donkey Boiler Fee ... £ - : : When received Travelling Expenses (if any) 430 : 00 : 23-6-1919

F. P. Archbold Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. AUG. 29. 1919 Assigned June 6. 19 FRI. DEC. 4. 1923

