

REPORT ON MACHINERY.

No. 2499

Received at London Office

FRI. 22 AUG. 1919

Date of writing Report 12-7-19 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

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 14.85

Material of screw shaft 5

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

Dia. of Tunnel shaft as per rule 13 1/2

as fitted 13 3/8

Dia. of Crank shaft journals as per rule 14.17

as fitted 14 1/2

Dia. of Crank pin 14 3/4

Size of Crank webs

Dia. of thrust shaft under

collars 14 1/2

Dia. of screw 17 1/2

Pitch of Screw 19 1/2

No. of Blades 4

State whether moveable YES

Total surface 96 1/2

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 4 Boilers 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. of Bilge Injections 1 sizes 8 Connected to circulating pump YES

Is a separate Donkey Suction fitted in Engine room & size YES 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 28-5-19

No. of Certificate 49

Can each boiler be worked separately YES

Area of fire grate in each boiler 59.5

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 1/2

Length 11 1/2

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 S

long. seams T.R.D.B.S.

Diameter of rivet holes in long. seams 1 1/2

Pitch of rivets 9 1/8

Lap of plates or width of butt straps 22

Per centages of strength of longitudinal joint

rivets 94.3

plate 84.8

Working pressure of shell by rules 212

Size of manhole in shell 16 x 12

Size of compensating ring —

No. and Description of Furnaces in each boiler 3 horizontal

Material S

Outside diameter 46

Length of plain part top —

bottom —

Thickness of plates crown 3/4

bottom 3/4

Description of longitudinal joint welded

No. of strengthening rings —

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

Working pressure by rules 208

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

If stays are fitted with nuts or riveted heads nuts

Working pressure by rules 233

End plates in steam space:

Material of stays S

Area at smallest part 2.03

Area supported by each stay 78.2

Working pressure by rules 233

Material of stays S

Thickness 1 3/16

Pitch of stays 16 1/2 x 13 1/4

How are stays secured D. nuts

Area at smallest part 7.6

Area supported by each stay 309.375

Working pressure by rules 208

Material of Front plates at bottom S

Thickness 3/4

Material of Lower back plate S

Thickness 3/4

Greatest pitch of stays 18

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 249 1/2

% of strength of joint

Working pressure by rules 257

Steam dome: description of joint to shell

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

010369-010377-0259

IS A DONKEY BOILER FITTED?

VO

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:-

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 frames 1 screwing pump impeller & bronze shaft 1 Air pump rod. arrived photos & bolts & nuts

Feed & Bilge Valves?

The foregoing is a correct description,

Y. K. Kishimura

Manufacturer.

Dates of Survey while building

(During progress of work in shops - - -
During erection on board vessel - - -
Total No. of visits

Jan. 4-27 Feb 7-19-24 Mar 3-10-18-20-25 Apr 1-8-14-17-22-30 May 3-8-14-26-28
Ju 10-16-17 May 26-28 Ju 2-12-18-19-20-25-26
32

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

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 600

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 If so, state name of vessel

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 entered in the Register Book. LMC 6.19 Electric light

Certificate (if required) to be sent to YOKOHAMA

The Surveyors are requested not to write on or below the space for Committee's Minute.

The amount of Entry Fee ... 730 : : When applied for
Special ... 7050 : 25 : 27-6-1919
Donkey Boiler Fee ... £ - : : When received.
Travelling Expenses (if any) 730 : 00 : 27-6-1919

Committee's Minute

Assigned

FRI. AUG. 29. 1919

Thurs 6.19

FRI. DEC. 6. 1923

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.

27/8/19. J.R.R.

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



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