

# REPORT ON MACHINERY

No. 2660

Received at London Office

Date of writing Report 11-5-1920 When handed in at Local Office

Port of YOKOHAMA.

No. in Survey held at URAGA

Date, First Survey Jan 7<sup>th</sup>

Last Survey May 15<sup>th</sup> 1920

Reg. Book. on the STEEL S.S. "WUGO MARU"

(Number of Visits) Gross 3682.86

Master HIKOTAKO ISHIDA Built at URAGA

By whom built URAGA DOCK CO LTD

When built 5-1920

Engines made at URAGA

By whom made URAGA DOCK CO LTD

when made 5-1920

Boilers made at URAGA

By whom made URAGA DOCK CO LTD

when made 5-1920

Registered Horse Power

Owners NAGUCHI KISEN KAISHA.

Port belonging to KOBE

Tom. Horse Power as per Section 28 390.

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted YES.

ENGINES, &c.—Description of Engines

TRIPLE EXPANSION SURFACE COND.

No. of Cylinders 3. No. of Cranks 3.

Dia. of Cylinders 24 3/4 x 41 x 69.

Length of Stroke 45.

Revs. per minute 80

Dia. of Screw shaft 13.95

Material of screw shaft O.H. STEEL

Is the screw shaft fitted with a continuous liner the whole length of the stern tube YES. 3 PIECES 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 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. If two

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

Length of stern bush 5'-4"

Dia. of Tunnel shaft 12.86

as per rule 13

Dia. of Crank shaft journals 13.51

as per rule 13.5

Dia. of Crank pin 13

Size of Crank webs 25 1/2 x 8 1/2 Dia. of thrust shaft under

collars 13 5/8

Dia. of screw 16'-3"

Pitch of Screw 17'-6"

No. of Blades 4

State whether moveable YES

Total surface 86 sq

No. of Feed pumps 2

Diameter of ditto 4 3/4

Stroke 22 1/2

Can one be overhauled while the other is at work YES

No. of Bilge pumps 2

Diameter of ditto 4 3/4

Stroke 22 1/2

Can one be overhauled while the other is at work YES

No. of Donkey Engines 4

Sizes of Pumps 2-FEED @ 10 1/2 x 8 x 18

1-BALL @ 9 x 10 1/2 x 10

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 3 at 3 1/2" DIA.

In Holds, &c. N<sup>o</sup> 1, 2 @ 3 1/2. N<sup>o</sup> 2, 2 @ 3 1/2. N<sup>o</sup> 3, 2 @ 3 1/2

No. of Bilge Injections 1 sizes 8"

Connected to condenser, or to circulating pump PUMP 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 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 BILGE SUCTIONS TO HOLD How are they protected BOYED IN WITH 2 1/2" CEILING BOARDS.

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times YES, EXCEPT THOSE IN BALL TKS.

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 WEATHER DK. LEVEL.

OILERS, &c.—(Letter for record 8) Manufacturers of Steel CARNAGIE, ILLINOIS, & YAWATA STEEL COS.

Total Heating Surface of Boilers 5058 sq

Is Forced Draft fitted YES

No. and Description of Boilers 2 SINGLE ENDED (SCOTCH TYPE)

Working Pressure 200

Tested by hydraulic pressure to 400

Date of test 15-4-20

No. of Certificate 99

Can each boiler be worked separately YES

Area of fire grate in each boiler 59 sq

No. and Description of Safety Valves to

each boiler 3/4" TWIN SPRING LOADED

Area of each valve 11.045 sq

Pressure to which they are adjusted 205 LBS.

Are they fitted with easing gear YES.

Smallest distance between boilers or uptakes and bunkers or woodwork 16"

Mean dia. of boilers 14'-9"

Length 10'-10"

Material of shell plates O.H. STEEL

Thickness 7/16

Range of tensile strength 28-32 TONS Are the shell plates welded or flanged No

Descrip. of riveting: cir. seams DR LAP

long. seams TR.D.B.S.

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

Pitch of rivets 9-85

Lap of plates or width of butt straps 22"

Per centages of strength of longitudinal joint

rivets. 92.82%

plate 84.77%

Working pressure of shell by rules 221 LBS.

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, G.S. BARK Material O.H. STEEL Outside diameter 44 1/4"

Length of plain part top

bottom

Thickness of plates crown 5"

bottom 8"

Description of longitudinal joint WELDED

No. of strengthening rings

Working pressure of furnace by the rules 227.5 LBS

Combustion chamber plates: Material O.H. STEEL Thickness: Sides 1/16 Back 1/16 Top 1/16 Bottom 3/4

Pitch of stays to ditto: Sides 8 x 9 1/2

Back 7 1/2 x 9 1/2

Top 9 x 9

If stays are fitted with nuts or riveted heads NUTS

Working pressure by rules 202 LBS

Material of stays O.H. STEEL

Area at smallest part 1.79 sq

Area supported by each stay 76.75 sq

Working pressure by rules 210 LBS. End plates in steam space:

Material O.H. STEEL

Thickness 1/16

Pitch of stays 17 x 18 1/4

How are stays secured D.NUTS

Working pressure by rules 204 LBS Material of stays O.H. STEEL

Area at smallest part 7.07 sq

Area supported by each stay 310.5 sq

Working pressure by rules 236.3 LBS Material of Front plates at bottom O.H. STEEL

Thickness 7/8

Material of Lower back plate O.H. STEEL

Thickness 7/8

Greatest pitch of stays 14 x 7 1/2

Working pressure of plate by rules 205 LBS

Diameter of tubes 3.00

Pitch of tubes 4 1/4 x 4 1/8

Material of tube plates STEEL

Thickness: Front 7/8

Back 7/8

Mean pitch of stays 10'-7"

Pitch across wide water spaces 15 1/2

Working pressures by rules 277 LBS

Girders to Chamber tops: Material O.H. STEEL Depth and

thickness of girder at centre 10 x 9 1/4 x 1 1/2

Length as per rule 29 7/16

Distance apart 9' x 8 3/4

Number and pitch of stays in each 2 @ 9"

Working pressure by rules 225 & 218 LBS 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

UPERHEATER. 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

9020-2971 1266-0206



IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

2 Main bearing bolts & nuts, 4 top end bolts nuts, 2 bottom end bolts nuts, 6 coupling bolts nuts, 1 set of feed & bilge pump valves, 1 set of piston rings & springs, 1 set of junk ring bolts nuts, 6 cylinder cover bolts nuts, a quantity of assorted bolts & nuts & iron of various sizes, 1 circulating pump impeller & shaft, 1 air pump rod, 1 H.P. valve spindle, 2 eccentric rods, 2 safety valve springs, 2 top end brasses, one bottom end brass, 50 Condenser tubes, 8 junk ring bolts & nuts, 8 cyl. cover bolts nuts.

The foregoing is a correct description,

K. Ushioke

Manufacturer.

Dates of Survey while building { During progress of work in shops - JAN. 7, 29, 30. FEB. 3, 16, 19, 23, 24, 26. MAR. 8, 9, 12, 19, 22, 24, 29. APRIL 4, 2, 7, 8, 12, 13, 14, 15, 16, 19. During erection on board vessel - 21, 22, 23, 28. MAY 3, 5, 6, 10, 12, 14, 15. Total No. of visits 38

Is the approved plan of main boiler forwarded herewith YES.

Dates of Examination of principal parts—Cylinders 1-4-20 Slides 22-3-20 Covers 1-4-20 Pistons 24-3-20 Rods 24-3-20

Connecting rods 24-3-20 Crank shaft 16-4-20 Thrust shaft 16-4-20 Tunnel shafts 16-4-20 Screw shaft 16-4-20 Propeller 13-4-20

Stern tube 22-3-20 Steam pipes tested 7-5-20 Engine and boiler seatings 2-4-20 Engines holding down bolts 3-5-20

Completion of pumping arrangements 10-5-20 Boilers fixed 3-5-20 Engines tried under steam 10-5-20

Completion of fitting sea connections 15-4-20 Stern tube fitted 12-4-20 Screw shaft and propeller 3-5-20

Main boiler safety valves adjusted 10-5-20 Thickness of adjusting washers lock nuts fitted

Material of Crank shaft O.H. STEEL Identification Mark on Do. N° 469. H.D.S. Material of Thrust shaft O.H. STEEL Identification Mark on Do. 169. H.D.S.

Material of Tunnel shafts O.H. STEEL Identification Marks on Do. 201 Material of Screw shafts DO Identification Marks on Do. DO

Material of Steam Pipes COPPER Test pressure 400 LBS W.T.P.

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 No If so, state name of vessel

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

The machinery & Boilers of this vessel have been built according to the Rules, approved plans & under special survey. The materials have been tested found efficient & the workmanship is good. They have now been tested under steam with satisfactory results after fitting on board. This case is respectfully submitted for the committee's consideration & Record + L.M.C. 5-20 in Register Book.

It is submitted that this vessel is eligible for THE RECORD + LMC 5-20. F.D.

The amount of Entry Fee ... £ 30.00 : When applied for, Special ... £ 69.12 : 22-5-1920 Donkey Boiler Fee ... £ : When received, Travelling Expenses (if any) £ SEE HULL REPORT 31-6-1920

Committee's Minute FRI. 11 FEB. 1921

Assigned

Deferred

H.D. Buchanan

Engineer Surveyor to Lloyd's Register of Shipping.

WED. 19 APR. 1922

TUE. 9 AUG. 1921

TUE. 23 AUG. 1921

TUE. 22 AUG. 1922

+ LMC 5-20

F.D.

Rpt. 13.

Port of

No. in Reg. Book

Owners

Yard No.

DESCRIPT

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