

REPORT ON MACHINERY

No. 2660

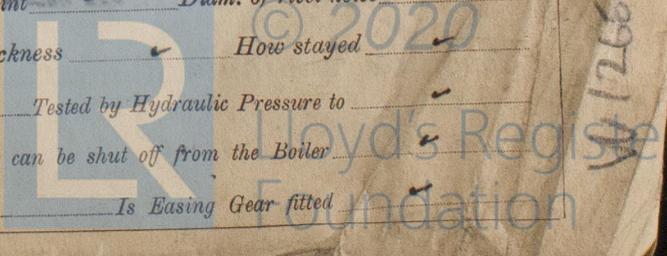
Received at London Office

Date of writing Report 11-5-1920 When handed in at Local Office 1920 Port of Yokohama
 No. in Survey held at URAGA Date, First Survey Jan 7th Last Survey May 15th 1920
 Reg. Book. on the STEEL S.S. "WUGO MARU" (Number of Visits) Gross 3682.86
 Master Hikotaro Ishida Built at URAGA By whom built URAGA DOCK CO LTD Tons Net 3682.86
 Engines made at URAGA By whom made URAGA DOCK CO LTD When built 5-1920
 Boilers made at URAGA By whom made URAGA DOCK CO LTD when made 5-1920
 Registered Horse Power 390 Owners NOGUCHI 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
 Is 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 YES Length of stern bush 5-4"
 Dia. of Tunnel shaft 12.86 Dia. of Crank shaft journals 13.51 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 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^o 1, 2 @ 3 1/2" N^o 2, 2 @ 3 1/2" N^o 3, 2 @ 3 1/2"
N^o 4, 2 @ 3 1/2" TUNNEL WELL, 1 @ 3 1/2" 4-3 1/2" NON RETURN VALVES WITH EXPANSION RODS TO WEATHER OK FITTED IN N^o 12
 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 YES
 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 N^o 2 How are they protected BOXED 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 TRS.
 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 D) 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 1100 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 15" 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 DBS. 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% 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 5" Thickness of plates crown 5/8" Description of longitudinal joint WELDED No. of strengthening rings 1
 bottom 3/8" bottom 3/8" 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 179 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 707 sq Area supported by each stay 310.5 sq Working pressure by rules 236.36 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 100
 Diameter 10" Thickness of shell plates 1/2" Material O.H. STEEL Description of longitudinal joint WELDED Diam. of rivet holes 1 1/2"
 Pitch of rivets 10" Working pressure of shell by rules 225 LBS. Crown plates 1/2" Thickness 1/2" How stayed BY STAYS
 SUPERHEATER. Type DRUM Date of Approval of Plan 1919 Tested by Hydraulic Pressure to 200 LBS.
 Date of Test 1919 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler YES
 Diameter of Safety Valve 1 1/2" Pressure to which each is adjusted 200 LBS. Is Easing Gear fitted YES

90720-99711
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. Ushiokeu

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 CH. STEEL Identification Mark on Do. N2469. H.D.S. Material of Thrust shaft CH. STEEL Identification Mark on Do. 169. H.D.S. Material of Tunnel shafts CH. 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.

Handwritten signatures and dates: J.W.D. 27/7/20, A.R.R.

The amount of Entry Fee ... £EN. 30.00 Special ... £ 269/4 Donkey Boiler Fee ... £ Travelling Expenses (if any) £ SEE HULL REPORT 31. 6. 1920

A.D. Buchanan, Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 11 FEB. 1921 Assigned Deferriid

W.F.D. 19 APR. 1922 TUE. 9 AUG. 1921 TUE. 23 AUG. 1921 TUE. 22 AUG. 1922 Lloyd's Register Foundation

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

Rpt. 13. Port of No. in Reg. Book Owners Yard No. DESCRIP Capacity Where is Position Positions Engines Ina If fuses circu If vessel Are the Are all are Are all Total num A B C D E 2 2 8 If arc Where DESCRIP Main ca Branch Branch Leads to Cargo li DESCRIP Joints i Are all po Are the How an aug