

REPORT ON MACHINERY.

Received at London Office

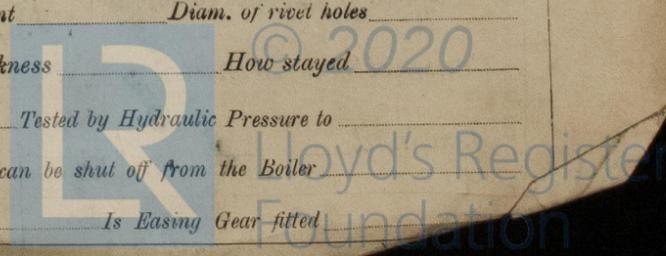
Date of writing Report 19 When handed in at Local Office 19 Port of Kobe
 Date, First Survey July 9th Last Survey Nov. 24th 1919
 on the steel Single Screw Steamer "SHUNKO MARU" Continuous attendance during building. (Number of Visits) 12 during erection Gross 6786.01 Tons
 Net 5077.27 Tons
 Master N. Yamagata Built at Ou, Harima By whom built Harima Dockyard Co. When built 1919
 Engines made at Kobe By whom made Kobe Steel Works Ltd. when made 1919
 Boilers made at Kobe + Harima By whom made Port + Starbo Boilers made at Kobe steel wks. Centre Boilers made by Harima Dock. Co when made 1919
 Registered Horse Power 575 Owners Yoko Shokai Port belonging to Amagasaki
 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders Three No. of Cranks Three
 Dia. of Cylinders 27 : 45 : 75 Length of Stroke 51" Revs. per minute 157.4 Dia. of Screw shaft 16" Material of screw shaft Steel
 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
 Is 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 ✓ If two
 liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 5'-8"
 Dia. of Tunnel shaft 13-67/14-22 as per rule 14-35 14-34 as fitted 14-3/4 Dia. of Crank shaft journals 14-3/4 Dia. of Crank pin 15" Size of Crank webs x 9 1/2 Dia. of thrust shaft under
 collars 15" Dia. of screw 18'-4" Pitch of Screw 19'-8 1/2" No. of Blades 4 State whether moveable yes Total surface 80 sq
 No. of Feed pumps 2 Diameter of ditto 5 Stroke 25 1/2 Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 5 Stroke 25 1/2 Can one be overhauled while the other is at work yes
 No. of Donkey Engines 4 Sizes of Pumps 2 Feed pps. 10 1/2 : 8 : 2 1/2 No. and size of Suctions connected to both Bilge and Donkey pumps
2 S.B. 7 x 5 x 7 1 Bal. Pt. 9 x 12 x 10
 In Engine Room 2 @ 3 1/2 In Holds, &c. No. 1 Hold 2 @ 3 1/2 No. 2 2 @ 3 1/2
No. 3 2 @ 3 1/2 No. 4 2 @ 3 1/2 No. 5 2 @ 3 1/2 Tunnel 1 @ 3 1/2
 No. of Bilge Injections 1 sizes 8 3/4" Connected to condenser, or to circulating pump in hold Is a separate Donkey Suction fitted in Engine room & size yes 3 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 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 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 None 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 Top platform of Engine Room

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Illinois Steel Coy. 2 S.B. & 1 Aux S.B.
6418 + 1852 = 8270
 Total Heating Surface of Boilers 6418 Is Forced Draft fitted yes No. and Description of Boilers Two Single ended
 Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 8th Sept. No. of Certificate LLOYDS TEST
W.T. 400 LBS
W.L. 200 LBS
W.L. 8-9-18
 Can each boiler be worked separately yes Area of fire grate in each boiler 73.33 sq No. and Description of Safety Valves to
 each boiler 2 Spring loaded Area of each valve 12.56 sq Pressure to which they are adjusted 200 LBS Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork ✓ Mean dia. of boilers 15'-9" Length 12'-0" Material of shell plates Steel
 Thickness 1 1/2" Range of tensile strength 26.7-32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams D.R.L.
 long. seams T.R.D.B.S Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 10 1/2" Lap of plates or width of butt straps 1'-10 1/4"
 Per centages of strength of longitudinal joint 90.6 rivets 85.1 plate Working pressure of shell by rules 207 lbs Size of manhole in shell 16" x 12"
 Size of compensating ring 2'-7 1/4" x 2'-11 1/4" x 1 1/2" No. and Description of Furnaces in each boiler 4 Morrison Material Steel Outside diameter 44 1/4"
 Length of plain part top bottom ✓ Thickness of plates 5/8" crown 5/8" bottom ✓ Description of longitudinal joint Weld No. of strengthening rings ✓
 Working pressure of furnace by the rules 209 lbs Combustion chamber plates: Material Steel Thickness: Sides 1 1/8" Back 3/4" Top 1 1/8" Bottom 1"
 Pitch of stays to ditto: Sides 9" x 8" Back 8 3/8" x 10 1/4" Top 8" x 9" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 222 LBS
 Material of stays Steel Area at smallest part 2.43 Area supported by each stay 85.8 Working pressure by rules 254 lbs End plates in steam space:
 Material Steel Thickness 1 1/4" Pitch of stays 16 1/2" x 19" How are stays secured D.N+W Working pressure by rules 234 LBS Material of stays Steel
 Area at smallest part 7.068 Area supported by each stay 313.5 Working pressure by rules 234 LBS Material of Front plates at bottom Steel
 Thickness 7/8" Material of Lower back plate Steel Thickness 7/8" Greatest pitch of stays 10 x 1.5 Working pressure of plate by rules 211 lbs
 Diameter of tubes 3" Pitch of tubes 4 1/2" x 4 1/4" Material of tube plates Steel Thickness: Front 7/8" Back 7/8" Mean pitch of stays 8 1/4"
 Pitch across wide water spaces 13 1/2" Working pressures by rules 217 lbs Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 10" x 1 7/8" Length as per rule 34 7/8" Distance apart 9 Number and pitch of stays in each 3 @ 8"
 Working pressure by rules 269 lbs 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 _____

007506 - 007517 - 0194



AUXILIARY
 IS A ~~DONKEY~~ BOILER FITTED? *yes* If so, is a report now forwarded? *yes*

SPARE GEAR. State the articles supplied:—
 2 Connecting Rods top end bolts + nuts ✓ Quantity of assorted bolts
 2 Connecting Rod bottom end bolts + nuts ✓ + nuts
 2 Main bearing bolts ✓ Iron of various sizes
 1 Set of Coupling bolts ✓
 1 Set of Feed + Bilge pump valves ✓
 1 Set of Piston springs. ✓

The foregoing is a correct description,
 THE TEIKOKU STEAMSHIP CO., LTD.
 Manufacturer.

Dates of Survey while building
 During progress of work in shops -- Continuous attendance July 9th - Sept. 16th
 During erection on board vessel --- Sept. 22, 25, 27, 30th, Oct. 3, 10, 24th, Nov. 4, 8, 18, 22, + 24th 1919
 Total No. of visits Continuous attendance while building. Is the approved plan of main boiler forwarded herewith
 12 during erection " " " " " "

Dates of Examination of principal parts—Cylinders 13-8-19 Slides 13-8-19 Covers 13-8-19 Pistons 13-8-19 Rods 23-1-19
 Connecting rods 9/19-29/3/19 Crank shaft 20-8-19 Thrust shaft 2-8-19 Tunnel shafts - 27-8-19 Screw shaft 6-8-19 Propeller 26-10-19
 Stern tube Steam pipes tested 24-10-19 Engine and boiler seatings 22nd Sept. Engines holding down bolts 30th Nov.
 Completion of pumping arrangements 8th Nov. 19 Boilers fixed 10th Oct. 1919 Engines tried under steam 15th Nov.
 Completion of fitting sea connections 8th Nov. 19 Stern tube 20th Oct. 1919 Screw shaft and propeller 30th Oct.
 Main boiler safety valves adjusted 15th Nov. 19 Thickness of adjusting washers Lock nuts ✓
 Material of Crank shaft Steel Identification Mark on Do. LLOYDS LLOYDS 13-8-19 20-8-19 Material of Thrust shaft Steel Identification Mark on Do. LLOYDS LLOYDS 2-8-19
 Material of Tunnel shafts Steel Identification Marks on Do. S1, 1L, 2L, 3L, 4L, 5L, 6L, 7, 9L. R.O.B. R. Material of Screw shafts Steel Identification Marks on Do. LLOYDS LLOYDS 6-8-19 27-8-19
 Material of Steam Pipes Steel Test pressure 600 LBS. ✓

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 *yes* ✓ If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.)
 The Machinery has been made & fitted under Special Survey in accordance with the requirements of the Rules and the materials and workmanship have been found good.
 In our opinion the machinery is eligible for the Record of L.M.C. 11-19

It is submitted that this vessel is eligible for THE RECORD T.L.M.C. 11/19. F.D.

R.S.B. & 1 Aux. SB. *NSG*
 25/2/20.

JWD

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

The amount of Entry Fee ... *Yes* 30.- :
 Special ... £ 853.- :
 Donkey Boiler Fee ... £ :
 Travelling Expenses (if any) :
 When applied for, 25th Nov. 1919
 When received, 29th Nov. 1919
 FRI. 27 FEB. 1920

R. B. Batcher W. Lawson
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minutes Assigned
 + L.M.C. 11:19 T.R.

