

REPORT ON MACHINERY

No. 1264

MON 2 FEB 1920

Received at London Office

Date of writing Report 1st Dec. 1919 When handed in at Local Office 1st Dec. 1919 Port of

NAGASAKI.

o. in Survey held at NAGASAKI.

Date, First Survey 13th Dec. 1917 Last Survey 10th Nov. 1919

eg. Book. on the Steamer S.S. "Murooran Maru"

(Number of Visits 122)

Master H. Yamamoto Built at Nagasaki By whom built Mitsubishi Zosen Kaisha When built 1919

Engines made at Nagasaki By whom made Mitsubishi Zosen Kaisha when made 1919

Boilers made at Nagasaki By whom made Mitsubishi Zosen Kaisha when made 1919

Registered Horse Power Owners Nippon Yusen Kaisha Port belonging to Tokyo

m. Horse Power as per Section 28 495 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.

GINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3

1. of Cylinders 26 1/2", 44 1/2", 75" Length of Stroke 48" Revs. per minute 81 Dia. of Screw shaft as per rule 15.98" Material of screw shaft as fitted 16 1/2" steel

the screw shaft fitted with a continuous liner the whole length of the stern tube No liner fitted Is the after end of the liner made water tight

the propeller boss 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

are fitted, is the shaft lapped or protected between the liners Length of stern bush 5' 6 1/2"

2. of Tunnel shaft as per rule 13.74" Dia. of Crank shaft journals as per rule 14.427" Dia. of Crank pin 15" Size of Crank webs 22 7/8" x 9 1/2" Dia. of thrust shaft under

bars 14 3/4" Dia. of screw 18 1/3" Pitch of Screw 19 1/9" No. of Blades 4 State whether moveable Yes. Total surface 96.8 sq. ft.

of Feed pumps 2 Diameter of ditto 5" Stroke 24" Can one be overhauled while the other is at work Yes.

of Bilge pumps 2 Diameter of ditto 5" Stroke 24" Can one be overhauled while the other is at work Yes.

of Donkey Engines 4 Sizes of Pumps 1 Duplex 7" x 5" x 7" 2 Feed Simplex 9" x 12" x 10" No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room 3 c 3 1/2" In Holds, &c. No. 1 Hold 2 c 3 1/2", No. 2 Hold 2 c 3 1/2", No. 3 Hold 2 c 3 1/2", No. 4 Hold 2 c 3 1/2", Tunnel well 1 c 2 1/2"

Bunker 2 c 3 1/2" Cross Bunker 2 c 3 1/2" No. 3 Hold 2 c 3 1/2" No. 4 Hold 2 c 3 1/2" Tunnel well 1 c 2 1/2"

of Bilge Injections 1 sizes 8" Connected to condenser and circulating pump Is a separate Donkey Suction fitted in Engine room & size Yes 3 1/2"

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 None.

all connections with the sea direct on the skin of the ship Yes. Are they Valves or Cocks Both.

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.

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.

all pipes are carried through the bunkers None How are they protected

all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes.

the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes.

the Screw Shaft Tunnel watertight Yes. Is it fitted with a watertight door Yes. worked from Bridge deck

ERS, &c.—(Letter for record S) Manufacturers of Steel Midvale Steel Ordnance Co. S.S.B.

Heating Surface of Boilers 6591 sq. ft. Is Forced Draft fitted Yes. No. and Description of Boilers 3 Cylindrical single ended

Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 1st Oct. 1919 No. of Certificate 97.

each boiler be worked separately Yes. Area of fire grate in each boiler 54.31 sq. ft. No. and Description of Safety Valves to

boiler 2 Spring loaded Area of each valve 9.6 sq. ins. Pressure to which they are adjusted 205 lbs. Are they fitted with easing gear Yes.

least distance between boilers or uptakes and bunkers or woodwork 2' 9" Mean dia. of boilers 14' 0" Length 11' 6" Material of shell plates Steel

thickness 1 5/16" Range of tensile strength 28 to 32 tons Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams Double lap.

seams 2 straps Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 9 1/2" x 4 3/4" Lap of plates or width of butt straps 20 1/2"

percentages of strength of longitudinal joint rivets 88.6 plate 85.5 Working pressure of shell by rules 212 lbs. Size of manhole in shell 16" x 12"

of compensating ring 37" x 33" x 1 5/16" No. and Description of Furnaces in each boiler 3 Morrison's suspension Material Steel Outside diameter 3' 7 3/4"

h of plain part top 5" bottom 8" Thickness of plates crown 5" bottom 8" Description of longitudinal joint Welded No. of strengthening rings

working pressure of furnace by the rules 230 lbs. Combustion chamber plates: Material Steel Thickness: Sides 3/4" Back 3/4" Top 3/4" Bottom 1 5/16"

of stays to ditto: Sides 11 1/2" x 8" Back 9" x 10 3/8" Top 7" x 11 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 211 lbs.

material of stays Steel Area at smallest part 2.03 sq. ins. Area supported by each stay 79 sq. ins. Working pressure by rules 231 lbs. End plates in steam space:

material Steel Thickness 1 5/16" Pitch of stays 18" x 20" How are stays secured Double nut and washers Working pressure by rules 225 lbs. Material of stays Steel

at smallest part 7.67 sq. ins. Area supported by each stay 351 sq. ins. Working pressure by rules 227 lbs. Material of Front plates at bottom Steel

thickness 1 5/16" Material of Lower back plate Steel Thickness 1 Greatest pitch of stays 13 3/4" Working pressure of plate by rules 212 lbs.

ter of tubes 3 1/2" Pitch of tubes 4 1/2" x 4 3/8" Material of tube plates Steel Thickness: Front 1 c 3/8" Back 7/8" Mean pitch of stays 11 1/8"

across wide water spaces 13 3/4" Working pressures by rules 221 lbs. Girders to Chamber tops: Material Steel Depth and

ss of girder at centre 10 1/2" x 7 1/8" Length as per rule 2' 7 1/8" Distance apart 11 1/2" x 9 3/4" Number and pitch of stays in each 3 c 7"

ing pressure by rules 214 lbs. Steam dome: description of joint to shell % of strength of joint

nameter 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

PERHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to

ate 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?

No. 2

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—As per Rule, and in addition—1 Tail shaft, 1 H.P. valve spindle, 1 L.P. valve spindle, 2 eccentric rods, 1 air pump rod, 1 set each of H.P., I.P. & L.P. piston packing rings, 1 set each of top & bottom brasses for one connecting rod, 13 jirnk ring bolts, 1 set of air pump valves, 1 impeller & spindle for circulating pump, 53 condenser tubes & 160 ferrules, 1 complete set valves & seats for main & donkey, feed checks, 3 cylinder escape valves & springs, 1 safety valve spring.

The foregoing is a correct description,
NAGASAKI WORKS, MITSUBISHI ZOSEN KAIKWA, LTD.

12/1/19

WN GENERAL MANAGER

Manufacturer.

1917 Dec. 13. 1918 Jan. 15. 30. Feb. 20. Mar. 1. 14. 19. 20. 28. Apr. 2. 9. 10. 16. 20. May 3. 6. 9. 28. 29. 31. June 4. 13. 17. 26. 28. July 13. 31. Aug. 21. 23. Oct. 12. 1919 Feb. 6. 7. 17. 27. 28. Mar. 1. 7. 14. 20. 26. Apr. 4. 8. 9. 12. 14. 16. 17. 22. 23. 24. 29. May 8. 9. 10. 14. 15. 20. 23. 26. 27. 29. 30. June 3. 4. 6. 9. 10. 11. 14. 25. 26. 28. 30. July 4. 8. 11. 12. 17. 21. 22. Aug. 1. 7. 8. 13. 22. Sept. 2. 3. 15. 17. 22. 23. 27. 29. 30. Oct. 1. 2. 3. 4. 10. 13. 14. 15. 16. 18. 20. 21. 22. 23. 24. 25. 27. 29. Nov. 3. 7. 10.

Dates of Survey while building { During progress of work in shops - - - 26. 28. July 13. 31. Aug. 21. 23. Oct. 12. 1919 Feb. 6. 7. 17. 27. 28. Mar. 1. 7. 14. 20. 26. Apr. 4. 8. 9. 12. 14. 16. 17. 22. 23. 24. 29. May 8. 9. 10. 14. 15. 20. 23. 26. 27. 29. 30. June 3. 4. 6. 9. 10. 11. 14. 25. 26. 28. 30. July 4. 8. 11. 12. 17. 21. 22. Aug. 1. 7. 8. 13. 22. Sept. 2. 3. 15. 17. 22. 23. 27. 29. 30. Oct. 1. 2. 3. 4. 10. 13. 14. 15. 16. 18. 20. 21. 22. 23. 24. 25. 27. 29. Nov. 3. 7. 10.

During erection on board vessel - - - 15. 17. 22. 23. 27. 29. 30. Oct. 1. 2. 3. 4. 10. 13. 14. 15. 16. 18. 20. 21. 22. 23. 24. 25. 27. 29. Nov. 3. 7. 10.

Total No. of visits 122

Is the approved plan of main boiler forwarded herewith Yes

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” ” ” *donkey* ” ” ”

Dates of Examination of principal parts—Cylinders ^{23.9.19+} 1.10.19 Slides ^{23.9.19+} 16.10.19 Covers ^{23.9.19+} 1.10.19 Pistons 16.10.19 Rods 16.10.19
Connecting rods 16.10.19 Crank shaft 2.9.19 Thrust shaft 9.6.19 Tunnel shafts ^{9.6.19+} 1.10.19 Screw shaft 4.10.19 Propeller 1.10.19
Stern tube 2.10.19 Steam pipes tested 4.23.10.19 Engine and boiler seatings 13.10.19 Engines holding down bolts 21.10.19
Completion of pumping arrangements 27.10.19 Boilers fixed 18.10.19 Engines tried under steam 29.10.19
Completion of fitting sea connections 14.10.19 Stern tube 10.10.19 Screw shaft and propeller 13.10.19
Main boiler safety valves adjusted 27.10.19 Thickness of adjusting washers *lamb nuts*
Material of Crank shaft *Steel* ✓ Identification Mark on Do. *No 152* A.S.W. Material of Thrust shaft *Steel* ✓ Identification Mark on Do. *No. 152* A.S.
Material of Tunnel shafts *Steel* ✓ Identification Marks on Do. *No. 152 & 157* A.S.W. Material of Screw shafts *Steel* ✓ Identification Marks on Do. *No 157* A.S.
Material of Steam Pipes *Solid drawn Steel & Copper* ✓ Test pressure *Steel 600lb. & Copper 400lb. per sq. in.*
Is an installation fitted for burning oil fuel ✓ Is the flash point of the oil to be used over 150°F. ✓

Is an installation fitted for burning oil fuel

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 Karen Mann

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

These Engines and Boilers have been constructed under Special Survey, in accordance with the Rules, and of good materials and workmanship.

They have been securely fitted on board, and have been satisfactorily tried under steam.

The Machinery of this vessel is eligible, in my opinion, for the record of **LMC 11.19** in the Register Book.

Mean speed on Trial when $\frac{1}{3}$ Loaded = 14.765 knots.

It is submitted that
this vessel is eligible for
THE RECORD + L.

+ L. M. C. 11.19. F. D.

679
2/2/20

72

9. 12. 92

The amount of Entry Fee	...	£	30 ⁰⁰	:	When applied for, 22 nd Nov. 1919
Special	...	£	783 ¹⁰	:	
Donkey Boiler Fee	...	£	—	:	When received, 27 th Nov. 1919
Travelling Expenses (if any)	£	—	:	:	

A. S. Williamson
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. APR. 13 1920

Assigned

+ L. Mc. 11:19 F.R.

WILLIAM WHITE