

Rpt. 4.

REPORT ON MACHINERY

No. 2745
REC'D DEC. 22 1920

Received at London Office

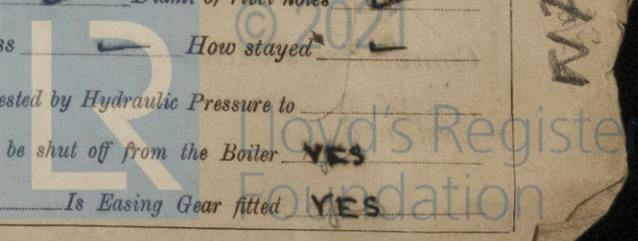
Date of writing Report 17-11-20 When handed in at Local Office 18-11-20 Port of **YOKOHAMA**
 No. in Survey held at **YOKOHAMA** Date, First Survey 12-1-20 Last Survey 6th Nov 1920
 Reg. Book. on the **SINGLE SCREW STEAMER "TOKUYO MARU"** (Number of Visits)
 Master **U KONDO** Built at **Tsurumi** By whom built **ASANO S.B. CO** Tons { Gross 5450.42
 Engines made at **TOKYO** By whom made **ISHIKAWAJIMA S.B. & E CO** when made 1920
 Boilers made at **Tsurumi** By whom made **ASANO S.B. CO** when made 1920
 Registered Horse Power Owners **TOYO KISEN KAISHA** Port belonging to **YOKOHAMA**
 Nom. Horse Power as per Section 28 **513** **503** Is Refrigerating Machinery fitted for cargo purposes **no** Is Electric Light fitted **yes**

ENGINES, &c.—Description of Engines **Triple Expansion** No. of Cylinders **3** No. of Cranks **3**
 Dia. of Cylinders **26-43 1/2-72** Length of Stroke **48** Revs. per minute **79** Dia. of Screw shaft as per rule **15"** Material of screw shaft **STEEL**
 as fitted **16"** 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
 the propeller boss **YES** If the liner is in more than one length are the joints ~~riveted~~ **SOLDERED** 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 **63 3/4"**
 Dia. of Tunnel shaft as per rule **13.54"** Dia. of Crank shaft journals as per rule **14.12"** Dia. of Crank pin **14.5"** Size of Crank webs **27x9 1/2"** Dia. of thrust shaft under
 as fitted **13.75"** as fitted **14.5"** Dia. of Thrust shaft under **14.5"** Dia. of screw **17-9"** Pitch of Screw **19'-1"** No. of Blades **4** State whether moceable **YES** Total surface **996 sq ft**
 No. of Feed pumps **2** Diameter of ditto **4 1/2** Stroke **24"** Can one be overhauled while the other is at work **YES**
 No. of Bilge pumps **2** Diameter of ditto **4 1/2** Stroke **24** Can one be overhauled while the other is at work **YES**
 No. of Donkey Engines **16S DONKEY** Sizes of Pumps **7x5x7 (OIL TRANSFER PUMP)** No. and size of Suctions connected to both Bilge and Donkey pumps
 1 **B DONKEY** **9x12x12** **6 1/2x6x6**
 Engine Room **3** **2 FEED PUMPS** **10 1/2x8x18** In Holds, &c. **Nº1. 1 3/2. Nº2. 2.3 1/2 Nº3. 3.3 1/2**
 No. of Bilge Injections **1** sizes **8"** Connected to condenser, or to circulating pump **CIRC PUMP** Is a separate Donkey Suction fitted in Engine room & size **YES, 5"**
 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 **NONE**
 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**
 That pipes are carried through the bunkers **Nº1 & 2 HOLD SUCTIONS** How are they protected **WOOD CEILING**
 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**

BOILERS, &c.—(Letter for record **S**) Manufacturers of Steel **MIDYALE & CARNEGIE**
 Total Heating Surface of Boilers **7128** Is Forced Draft fitted **YES** No. and Description of Boilers **3 CYLINDRICAL MULTITUBULAR**
 Working Pressure **200 lbs** Tested by hydraulic pressure to **400 lbs** Date of test **9-9-20/24-9-20** No. of Certificate **132-134**
 Can each boiler be worked separately **YES** Area of fire grate in each boiler **58.2 sq ft** No. and Description of Safety Valves to
 each boiler **2 SPRING LOAD** Area of each valve **11.04** 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 **22"** Mean dia. of boilers **14'-3"** Length **11'-6"** Material of shell plates **STEEL**
 Thickness **1 1/32** Range of tensile strength **28 To 32** Are the shell plates welded or flanged **NO** Descrip. of riveting: cir. seams **DOUBLE**
 Long. seams **DOUBLE STRAP** Diameter of rivet holes in long. seams **1 1/2** Pitch of rivets **10"** Lap of plates or width of butt straps **22**
TREBLE RIVET rivets **93** Working pressure of shell by rules **223** Size of manhole in shell **16x12**
 Percentages of strength of longitudinal joint plate **85** No. and Description of Furnaces in each boiler **3 MORISON** Material **STEEL** Outside diameter **3'-8 5/8**
 Length of plain part top bottom Thickness of plates crown **5/8** bottom **5/8** Description of longitudinal joint **WELDED** No. of strengthening rings
 Working pressure of furnace by the rules **225** Combustion chamber plates: Material **STEEL** Thickness: Sides **45/64** Back **1/16** Top **45/64** Bottom **15/16**
 Pitch of stays to ditto: Sides **10 1/2x7 1/2** Back **8 1/2x8 3/8** Top **8x9 1/4** If stays are fitted with nuts or riveted heads **NUTS** Working pressure by rules **206**
 Material of stays **STEEL** Area at smallest part **2.03** Area supported by each stay **78.75"** Working pressure by rules **229** End plates in steam space:
 Material **STEEL** Thickness **1 3/16** Pitch of stays **16 1/2x19** How are stays secured **NUTS & WASHERS** Working pressure by rules **211** Material of stays **STEEL**
 Area at smallest part **7.67** Area supported by each stay **313.5** Working pressure by rules **254** Material of Front plates at bottom **STEEL**
 Thickness **3/4** Material of Lower back plate **STEEL** Thickness **3/4** Greatest pitch of stays **8 1/2** Working pressure of plate by rules **269**
 Diameter of tubes **3** Pitch of tubes **4 1/8x4 1/4** Material of tube plates **STEEL** Thickness: Front **3/4** Back **3/4** Mean pitch of stays **8 3/8**
 Pitch across wide water spaces **13 1/2** Working pressures by rules **225** Girders to Chamber tops: Material **STEEL** Depth and
 Thickness of girder at centre **9x1 3/4** Length as per rule **30 3/4** Distance apart **8"** Number and pitch of stays in each **2-9 1/4**
 Working pressure by rules **225** 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

SAFETY VALVE. Type **FOSTER** Date of Approval of Plan Tested by Hydraulic Pressure to
 Date of Test **21-10-19** **BUFFALO** 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 **205** Is Easing Gear fitted **YES**

0800-1111



IS A DONKEY BOILER FITTED?

NO

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— One crank. one tail shaft. one propeller blade
Hoop end bolts & nuts. Bottom end bolts & nuts. main bearing bolts & nut
One set coupling bolts. one set feed and bilge pump valves
one set piston rings for each cylinder. 12 boiler tubes. 53 condenser
tubes 150 ferrules. a quantity of assorted bolts & nuts and
bar stock of various sizes

The foregoing is a correct description,

W. H. B. Smith

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } Jan 12/22 May 4/25 June 15/19/22/25/29 July 3/6/9/15/22/23/24/28 Aug 3/6/7/10/17/23/30 Sept 7-9-20
{ During erection on board vessel --- } Aug 4/21/23 Sept 15/22/27/29 Oct 1/6/11/14/18/20/25/29 Nov 6
Total No. of visits 42

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 25.5.20 Slides 7.8.20 Covers 7-8-20 Pistons 7-8-20 Rods 7-8-20
Connecting rods 15-6-20 Crank shaft 7-8-20 Thrust shaft 15-6-20 Tunnel shafts 15-9-20 Screw shaft 1-10-20 Propeller 1-10-20

Stern tube 15-7-20 Steam pipes tested 20-10-20 Engine and boiler seatings 23-8-20 Engines holding down bolts 15-9-20
Completion of pumping arrangements 29-10-20 Boilers fixed 1-10-20 Engines tried under steam 29-10-20

Completion of fitting sea connections 4-8-20 Stern tube 4-8-20 Screw shaft and propeller 4-8-20
Main boiler safety valves adjusted 25-10-20 Thickness of adjusting washers Lock nuts fitted

Material of Crank shaft STEEL Identification Mark on Do. LLOYDS SPARE 25-10-20 Material of Thrust shaft STEEL Identification Mark on Do. LLOYDS 2-12-19

Material of Tunnel shafts STEEL Identification Marks on Do. LLOYDS 12-12-19 Material of Screw shafts STEEL Identification Marks on Do. LLOYDS 2-12-19

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 ⁵/8 MEIYO MARU

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery of this vessel has been built under special survey in accordance with approved plans and the Society's Rules. The materials and workmanship are good. The machinery tried under steam and found satisfactory and is eligible in my opinion for record of LMC 11-20 and notation fitted for oil fuel F.P. above 150°F subject to fuel pumps, heaters and delivery pipes being fitted under survey and tested. Also the cross connections between oil and fresh water pipe systems being blanked off and and oil suction being controlled from deck outside casing

It is submitted that this vessel is eligible for THE RECORD. + LMC. 11. 20. FI

Rell
23/12/20
A.R.H.

The amount of Entry Fee ... £ 30.0 : When applied for,
Special ... £ 795.0 : 4-11-1920
Donkey Boiler Fee ... £ :
Travelling Expenses (if any) £ 50.0 : 9-11-1920

W. H. B. Smith
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute
Assigned + LMC 11. 20
F. D.

FRI. 28 JAN. 1921
© 2021 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.