

REPORT ON MACHINERY.

No. 653

MUN. 24 MAY 1909

Date of writing Report 1-5 1909 When handed in at Local Office 1-5 1909 Port of Nagasaki
 No. in Survey held at Nagasaki Date, First Survey 27-1-07 Last Survey 23-4 1909
 Reg. Book. on the Steel Twin Screw Steamer "Kitano Maru" (Number of Visits 94) Tons { Gross 8512.38
 Net 5277.68
 Master F. E. Cope. Built at Nagasaki By whom built Nitsu Bishi S. & C. Works When built 1909.
 Engines made at Nagasaki By whom made " " " when made 1909
 Boilers made at Nagasaki By whom made " " " when made 1909
 Registered Horse Power ✓ Owners Nippon Yusen Kaisha Port belonging to Tokio.
 Nom. Horse Power as per Section 28 973. Is Refrigerating Machinery fitted for cargo purposes ✓ Is Electric Light fitted yes ✓

ENGINES, &c.—Description of Engines Triple Expansion, Twin No. of Cylinders Six ✓ No. of Cranks Six ✓

Dia. of Cylinders 25" 4 1/2" 69" Length of Stroke 48" Revs. per minute 80-94 Dia. of Screw shaft as per rule 14.81 Material of Lockfast as fitted 15.25 screw shaft iron ✓

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

in 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 ✓ If two

liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 6'-0" ✓

Dia. of Tunnel shaft as per rule 13.18 ✓ Dia. of Crank shaft journals as per rule 13.84 ✓ Dia. of Crank pin 14.75 Size of Crank webs 22 x 9 1/2 Dia. of thrust shaft under

collars 14.25 Dia. of screw 16-6 Pitch of Screw 48-9 1/2 No. of Blades 4 State whether moveable yes Total surface 86.33 sq. ft. ✓

No. of Feed pumps Four Diameter of ditto 4 1/2" Stroke 24" Can one be overhauled while the other is at work yes ✓

No. of Bilge pumps Four Diameter of ditto 4 1/2" Stroke 24" Can one be overhauled while the other is at work yes ✓

No. of Donkey Engines Four and Sizes of Pumps 10" x 13 1/2" x 10 1/2" Ballum No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Three at 3 1/2" 9 1/2" x 12 1/2" x 24" In Holds, &c. Two at 3 1/2" in each hold, ✓

one 3" in each Tunnel and one 3" in Tunnel well. yes ✓

No. of Bilge Injections 2 sizes 1 1/2" Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size 8" x 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 none ✓

Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks Both Valves and 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 Bilge, Sail & Exhaust How are they protected Strong wood casings. ✓

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 ✓

Dates of examination of completion of fitting of Sea Connections 21-1-09 of Stern Tube 21-1-09 Screw shaft and Propeller 2-4-09

Is the Screw Shaft Tunnel watertight yes ✓ Is it fitted with a watertight door yes ✓ worked from upper deck ✓

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Clyde & Co., Colvilles, Lanarkshire. ✓

Palmer & Co. Ltd. Bowthorpe & Co. ✓

Total Heating Surface of Boilers 14276 Is Forced Draft fitted yes No. and Description of Boilers One Single end scotch. ✓

Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 18-1-09, 28-1-09 No. of Certificates 36-37 ✓

Can each boiler be worked separately yes ✓ Area of fire grate in each boiler 56.35 sq. ft. No. and Description of Safety Valves to

each boiler 2 Spring loaded 3 1/2" Area of each valve 9.62 sq. in. 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 24" Mean dia. of boilers 14-3" Length 11-6" Material of shell plates Steel ✓

Thickness 1 1/2" Range of tensile strength 28-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams 2 R. lap ✓

long. seams 3 R. 2 strips Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 10-5" Lap of plates or width of butt straps 22" ✓

Per centages of strength of longitudinal joint rivets 89% Working pressure of shell by rules 235 lbs Size of manhole in shell 16" x 12" ✓

Size of compensating ring 36 x 31 x 1 1/2 No. and Description of Furnaces in each boiler 3. Bull ✓ Material Steel Outside diameter 41 3/4" ✓

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

Working pressure of furnace by the rules 241 Combustion chamber plates: Material Steel Thickness: Sides 1/6" Back 1/6" Top 1/6" Bottom 1/6" ✓

Pitch of stays to ditto: Sides 10 1/2" x 7" Back 8 3/4" x 8 1/2" Top 9 3/4" x 8 1/4" If stays are fitted with nuts or riveted heads no ✓ Working pressure by rules 218

Material of stays Steel Diameter at smallest part 1 1/2" Area supported by each stay 74.3 sq. in. Working pressure by rules 246 End plates in steam space: ✓

Material Steel Thickness 1 1/2" Pitch of stays 19 1/4" x 16 1/2" How are stays secured 2 N + washers Working pressure by rules 219 Material of stays Steel ✓

Diameter at smallest part 3 1/8" Area supported by each stay 318 sq. in. Working pressure by rules 250 Material of Front plates at bottom Steel ✓

Thickness 3" Material of Lower back plate Steel Thickness 3" Greatest pitch of stays 12 x 10 Working pressure of plate by rules 250 ✓

Diameter of tubes 3 Ex Pitch of tubes 4 3/8" x 4 3/8" Material of tube plates Steel Thickness: Front 3/4" Back 3/4" Mean pitch of stays 8 1/2" ✓

Pitch across wide water spaces 1-1 1/2" Working pressures by rules 240 lbs Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 10" x 1 3/4" Length as per rule 30" Distance apart 8 1/4" Number and pitch of stays in each 2 at 9" ✓

Working pressure by rules 360 Superheater or Steam chest; how connected to boiler ✓ Can the superheater be shut off and the boiler worked

separately ✓ Diameter ✓ Length ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivet

holes ✓ Pitch of rivets ✓ Working pressure of shell by rules ✓ Diameter of flue ✓ Material of flue plates ✓ Thickness ✓

If stiffened with rings ✓ Distance between rings ✓ Working pressure by rules ✓ End plates: Thickness ✓ How stayed ✓

Working pressure of end plates ✓ Area of safety valves in superheater ✓ Are they fitted with easing gear ✓

VERTICAL DONKEY BOILER—

Manufacturers of Steel

NOT ANY

No.	Description	Made at	By whom made	When made	Where fixed
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area	Description of Safety
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment	
If fitted with easing gear	If steam from main boilers can enter the donkey boiler	Dia. of donkey boiler	Length		
Material of shell plates	Thickness	Range of tensile strength	Descrip. of riveting long. seams		
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Lap of plating	Per centage of strength of joint	Rivets Plates
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.	Dia. of stays	
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates	Description of joint	
Working pressure of furnace by rules	Thickness of furnace crown plates	Stayed by			
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey		

SPARE GEAR. State the articles supplied:— *As per rule and in addition, Two Propeller shafts, two right and two left hand bronze propeller blades, One length crank shaft interchangeable, Two stern bushes complete with lignum vitae, One Piston Rod, one slide Rod &c &c.*

The foregoing is a correct description,

W. J. M. General Manager
W. J. M. & Co. Works, Glasgow Manufacturer.

Dates of Survey while building: During progress of work in shops— *Nov. 1907, 1 Dec. 1, Jan 1908, 2 Feb 1, March 1, April 2, May 4, June 6, July 8, Aug 11, Sep 7.*
During erection on board vessel— *6/1-11/1-13/1-15/1-19/1-20/1-21/1-23/1-26/1-29/1-9/2-23/2-24/2-24/3-20/3-1/4-5/4-7/4-12/4-15/4-23/4*
Total No. of visits *65, 94*

Is the approved plan of main boiler forwarded herewith *Yes*

" " " donkey " " "

Dates of Examination of principal parts—Cylinders *10.12.08* Slides *27.10.08* Covers *27.10.08* Pistons *28.10.08* Rods *7.10.08*
Connecting rods *12.10.08* Crank shaft *29.9.08* Thrust shaft *29.9.08* Tunnel shafts *28.4.08* Screw shafts *28.1.09* Propellers *2.4.09*
Stern tubes *21.1.09* Steam pipes tested *23.2.09* Engine and boiler seatings *20.1.09* Engines holding down bolts *24.2.09*
Completion of pumping arrangements *1.4.09* Boilers fixed *24.2.09* Engines tried under steam *7.4.09*
Main boiler safety valves adjusted *5.4.09* Thickness of adjusting washers *jamt nuts, no washers.*
Material of Crank shaft *Steel* Identification Mark on Do. *LLOYDS No 30, 29.9.08* Material of Thrust shaft *Steel* Identification Mark on Do. *LLOYDS No 30, 29.9.08*
Material of Tunnel shafts *Steel* Identification Marks on Do. *LLOYDS No 30, 29.9.08* Material of Screw shafts *Steel* Identification Marks on Do. *N: 4668.B, C.J.H. 2.4.08*
Material of Steam Pipes *Lap weld Iron and Copper* Test pressure *600 + 400 lbs respectively.*

General Remarks (State quality of workmanship, opinions as to class, &c. *These Engines and Boilers have been Constructed under Special Survey, and in accordance with the Rules.*

The materials used and workmanship are good. They are securely and satisfactorily fitted on board and have been seen working well under a full head of steam and are now eligible in our opinion for notation in Register Book.

Mean average speed on Trials light ship, 17.19 knots. Howden's Forced Draught fitted.

It is submitted that this vessel is eligible for THE REDD + LMC. 4.09.
Elec. light. F.D. *JWD 24/5/09*

H. C. Heron
D. F. Robertson, acting
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

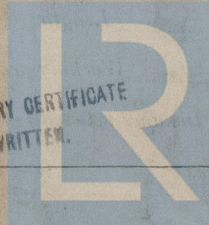
The amount of Entry Fee £ *3* : - : -
Special £ *103* : - : -
Donkey Boiler Fee £ : : :
Travelling Expenses (if any) £ : : :
When applied for, *4/5/09*
When received, *5/5/09*

Committee's Minute

TUES. 25 MAY 1909

Assigned

MACHINERY CERTIFICATE WRITTEN.



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