

Rpt. 4.

## REPORT ON MACHINERY

No. 2767  
REC'D MAY 1920

Received at London Office

Date of writing Report Mar 24<sup>th</sup> 1920 When handed in at Local Office 10 Port of Kobe  
No. in Survey held at Kobe Date, First Survey May 14<sup>th</sup> 1919 Last Survey Mar. 23<sup>rd</sup> 1920  
Reg. Book. on the Steel Single Screw Steamer "EASTERN CLOUD" (Number of Visits 56) Tons { Gross 5911.75  
Net 4183.58  
Master T. TOYA Built at Kobe By whom built Kawasaki Dockyard Co. Ltd When built 1920  
Engines made at Kobe By whom made Kawasaki Dockyard Co. Ltd when made 1920  
Boilers made at do By whom made do when made 1920  
Registered Horse Power 440 Owners The United States Shipping Board E.F. Corp. Port belonging to Kobe  
Nom. Horse Power as per Section 28 437 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 3  
Dia. of Cylinders 26" 43 1/2" 72" Length of Stroke 48" Revs. per minute 70 Dia. of Screw shaft as per rule 15 1/4" Material of Steel  
as fitted 16" screw shaft  
Is the screw shaft fitted with a continuous liner the whole length of the stern tube no liner Is the after end of the liner made water tight  
in 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  
liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 5' - 5 1/4"  
Dia. of Tunnel shaft as per rule 13.48 13.5" Dia. of Crank shaft journals as per rule 14.15 14.2"  
as fitted 13 3/4" as fitted 14 3/8" Dia. of Crank pin 14 3/4" Size of Crank webs 9 1/2" x 20 1/2" Dia. of thrust shaft under  
collars 14 3/8" Dia. of screw 17' - 6" Pitch of Screw 19' - 0" mean No. of Blades 4 State whether moveable ✓ Total surface 100 sq. ft.  
No. of Feed pumps One Diameter of ditto 5" Stroke 24" Can one be overhauled while the other is at work Yes (with Weirs Feed)  
No. of Bilge pumps Two Diameter of ditto 5" Stroke 24" Can one be overhauled while the other is at work Yes  
No. of Donkey Engines Five Sizes of Pumps Bal. 10" x 11" x 12 dupl. No. and size of Suctions connected to both Bilge and Donkey pumps  
In Engine Room Three 3 1/2" Donkey 5 1/2" x 5 1/2" x 9 1/2" 10 x 7 x 10 dupl. Nos. 1, 3 + 4 Holds each two 3 1/2"  
One 3 1/2" to Tunnel Well No. 2 Hold two 4"  
No. of Bilge Injections 1 sizes 9" Connected to condenser, or to circulating pump ✓ 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 None  
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 Up platform of Eng. Room

BOILERS, &c.—(Letter for record S Manufacturers of Steel Carnegie Stl Co. Illinois Stl Co. Marine Furnace Assn  
2252 x 2 + 1132 (Aux. Bly.) + Kawasaki Hyogo Steel Works. 25.8.4 1 Apr 5.8  
Total Heating Surface of Boilers 56365 Is Forced Draft fitted Yes No. and Description of Boilers Two 5' 6" + Aux. 5' 6"  
Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 8-1-20 17-1-20 No. of Certificate 8-1-20 17-1-20  
Can each boiler be worked separately Yes Area of fire grate in each boiler 60 1/2 sq No. and Description of Safety Valves to  
each boiler Two Spring loaded Area of each valve 3 3/4" dia. 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 12" Mean dia. of boilers 14' - 6" Length 12' - 0" Material of shell plates Steel  
Thickness 1 3/8" Range of tensile strength 2678-32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams End Double  
long. seams Double riveted Diameter of rivet holes in long. seams 1 7/16" Pitch of rivets 9 1/8" + 4 1/6" Lap of plates or width of butt straps 20 1/2" + 1 3/8"  
Per centages of strength of longitudinal joint 85.84 Working pressure of shell by rules 212 lbs. Size of manhole in shell 16" x 12"  
Size of compensating ring (7 1/2" + flange) 1 1/6" No. and Description of Furnaces in each boiler 3 Morrison's Material Steel Outside diameter 48 1/4"  
Length of plain part top bottom Thickness of plates crown 2 1/32" Description of longitudinal joint Weld No. of strengthening rings ✓  
Working pressure of furnace by the rules 221 lbs Combustion chamber plates: Material Steel Thickness: Sides 1 1/16" Back 1 1/16" Top 1 1/16" Bottom 7/8"  
Pitch of stays to ditto: Sides 8 5/8" x 8 1/2" Back 8 1/2" x 9" Top 8 1/2" x 9 3/8" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 203 lbs.  
Material of stays Steel Area at smallest part 2.10" Area supported by each stay 8 1/2" x 9 3/8" Working pressure by rules 230 lbs End plates in steam space:  
Material Steel Thickness 1 5/16" Pitch of stays 19 3/4" x 20 1/2" How are stays secured Double nuts Working pressure by rules 202 lbs Material of stays Steel  
Area at smallest part 10" Area supported by each stay 19 3/4" x 20 1/2" Working pressure by rules 260 lbs Material of Front plates at bottom Steel  
Thickness 1 3/16" Material of Lower back plate Steel Thickness 3/4" Greatest pitch of stays 13 1/2" at wide Working pressure of plate by rules 232 lbs  
Diameter of tubes 3 1/4" Pitch of tubes 4 1/6" x 4 1/6" Material of tube plates Steel Thickness: Front 1" Back 1 3/16" Mean pitch of stays 8 3/4"  
Pitch across wide water spaces 13 3/4" x 13 3/8" Working pressures by rules 240 lbs. Girders to Chamber tops: Material Steel Depth and  
thickness of girder at centre 10 1/4" x 13 1/6" (2) Length as per rule 34 1/2" Distance apart 9 3/8" Number and pitch of stays in each 3 @ 8 1/2"  
Working pressure by rules 220 lbs Steam dome: description of joint to shell None % 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 600 lbs.

SUPERHEATER. Type Schmidt Date of Approval of Plan ✓ Tested by Hydraulic Pressure to 600 lbs.  
Date of Test No 1 21-1-20 No 2 28-1-20 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes  
Diameter of Safety Valve 3" Pressure to which each is adjusted 220 lbs. Is Easing Gear fitted No

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W1432-0452 1/2



IS A DONKEY BOILER FITTED? *Aux Blr. only* If so, is a report now forwarded? *Yes*

SPARE GEAR. State the articles supplied:—

2 Crosshead pin bolts + nuts.	1 pair Crosshead brasses.	1 Set Safety valve springs.
2 Crankpin " "	1 Set Link brasses (2 quad blocks)	1 Set Wairo feed pump valves (Such + )
2 Main bearing " "	Air pump rod + nut.	1 Set of ballast pump valves ( " )
1 Set coupling " "	1 Eccentric strap complete	For Windlass steering Eng. Dynamo &
1 Set feed + bilge pump valves.	Circulating pump shaft.	fair Eng. Circulating pump Eng. + e
1 Set packing rings + springs for each piston.	H.P. + L.P. valve spindles.	of these sizes of Winch.
assorted bolts + nuts.	1 Boiler check valve + seat.	The following spares are supplied
One Crank shaft.	6 Cylinder covers studs + nuts.	viz: 1 Piston rod complete, 1 Conne
Propeller shaft + nut.	6 Junk ring collar studs + nuts.	rod (ex brasses) 1 Eccentric rod,
4 Cast iron propeller blades.	4 Valve chest cover studs + nuts.	Eccentric strap complete. 1 Se
1 pair connecting rod brasses.	2 Doz. Boiler tubes (8 plain + 6 stay tubes)	main bearing studs + bolts.
	3 Doz. Condenser tubes + 72 ferrules.	
	1 Cylinder escape valve + spring.	

The foregoing is a correct description,

**Kawasaki Dockyard Co., Ltd.,**

Manufacturer.

Per *1919* Secretary *1920*  
Dates of Survey { During progress of work in shops - - May 14, 18, 29; June 2, 6, 9, 24; July 24, 28; Sept. 17; Nov. 7, 10, 12, 15, 20, 22, 27; Dec. 6, 8, 10, 12, 13, 15, 16,  
while { During erection on board vessel - - Dec. 20, 22, 24, 26, 27; Jan. 6, 7, 8, 12, 13, 14, 16, 19, 21, 28, 29; Feb. 2, 5, 9, 10, 12, 16, 23, 24, 25, 26; Mar. 10, 13,  
building { Total No. of visits *56*

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

Dates of Examination of principal parts—Cylinders *8-1-20* Slides *24-2-20* Covers *12-2-20* Pistons *24-12-19* Rods *23-2-*

Connecting rods *26-12-19* Crank shaft *27-12-19* Thrust shaft *24-12-19* Tunnel shafts *14-1-20* Screw shaft *19-1-20* Propeller *24-12-*

Stern tube *8-1-20* Steam pipes tested *22-12-19* Engine and boiler seatings *13-1-20* Engines holding down bolts *26-2-20* overhaul *15-*

Completion of pumping arrangements *25-2-20* Boilers fixed *26-2-20* Engines tried under steam *13-3-20/loaded 23*

Completion of fitting sea connections *13-1-20* Stern tube *16-1-20* Screw shaft and propeller *29-1-20*

Main boiler safety valves adjusted *10-3-20* INTERVAL of LOCK NUTS Port. F. *1 1/16* Auxy. F. *9/16* Starbd. F. *7/8*

Material of Crank shaft *Steel* Identification Mark on Do. *LLOYDS 27-12-19 W.L.B.* Material of Thrust shaft *Steel* Identification Mark on Do. *K.F.4 T.R.24 19-1-20 W.L.B.*

Material of Tunnel shafts *Steel* Identification Marks on Do. *LLOYDS 14-1-20 W.L.B.* Material of Screw shafts *Steel* Identification Marks on Do. *K.F.4 T.R.24 19-1-20 W.L.B.*

Material of Steam Pipes *Solid drawn steel* Test pressure *600 lbs.* Spare: *K.T.3 T.K.6187 LLOYDS 19-1-20 W.L.B.*

Is an installation fitted for burning oil fuel *For carrying oil fuel* Is the flash point of the oil to be used over 150°F. *Yes*

Have the requirements of Section 49 of the Rules been complied with (with respect to Machinery section) *Yes*

Is this machinery duplicate of a previous case *Yes* If so, state name of vessel *S.S. WAR QUEEN Rpt. No 200*

*S.S. WAR PRINCE " " 201*

*S.S. NAPLES MARU " " 258*

*S.S. ITALY MARU " " 263*

*S.S. EASTERN MOON " " 268*

*S.S. EASTERN PLANET " " 273*

*S.S. EASTERN DAWN " " 275*

The machinery has been made and fitted under Special Survey

in accordance with the requirements of the Rules + the materials + workmanship

good. The machinery worked satisfactorily on the Light Load

+ Loaded trials with the following results:—

	Forward	Draughts aft.	mean	Revs. p. min.	I. H.P.	mean knots.
Light load	9'-7"	12'-9"	11'-2"	85	3154	13.3045
Loaded	15'-6"	19'-5"	17'-5 1/2"	66	2232	11.766

On Light Load trial, The Bypass Valves were not opened owing

to the shallow draught aft. On Loaded Trial, The cut offs were normal.

only the two Main Boilers were used on the Main Engines with Superheated Steam, The

Auxiliary Boiler supplying steam to the Engine Room Auxiliaries. The

Machinery of this vessel is eligible it is submitted, for the notation *⊕ L.M.C. 3-20.*

The amount of Entry Fee *Yen 30.-* When applied for, *Mar. 20th 1920*

Special *£ 735.-* When received, *Mar. 24th 1920*

Donkey Boiler Fee *£ 50.-*

Travelling Expenses (if any) *£ 50.-*

Committee's Minute *FRI. MAY. 21 1920*

Assigned *+ L.M.C. 3. 20 71*

*Noted for oil fuel 3. 20 2P. above 150' 7*

Certificate (if required) to be sent to

The Surveyors are requested not to write on or below the space for Committee's Minute.

CERTIFICATE WRITTEN



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S/S. "EASTERN CLOUD"

Note

In Oil Suction Pipe lines to oil transfer Pump, stop valves operated from Boat Deck have been fitted as follows:-

One valve in Thrust Recess for shutting off aft. tanks + one valve in stockhold at pump side of manifold to shut off the forward oil tanks.

The Steam stop valve of oil transfer pump can be controlled both from engine room floor and from the Boat Deck outside E. R. casing.

On settling tank P + S filling pipe, a stop valve (bolted to side of tank) can be operated from awning Deck in passage way.

The Suctions from settling tanks have not yet been fitted but it is understood that these together with a Fuel pump and all the equipment for oil burning will be fitted when the vessel reaches the U. S. A.

The pumping arrangement is such that only one pump (either oil transfer or Ballast) can be used on tanks at one time. This change can be made by switching a removable 90° Ell. from the oil transfer pump to the ballast pump suction.

A Blue print showing the diagrammatic arrangement is sent herewith.



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