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Date of writing Report 13 Feb 1921 When handed in at Local Office 16/2/1921 Port of Greenock

No. in Survey held at Greenock, Salt Glasgow Date, First Survey 19<sup>th</sup> October, 1920 Last Survey 16<sup>th</sup> February, 1922

Reg. Book. on the Wood Wrenna Jing Sang (Number of Visits 52)

Master Built at Salt Glasgow By whom built Dunlop Bremner & Co When built 1922

Engines made at Salt Glasgow By whom made Dunlop Bremner & Co when made 1922

Boilers made at Greenock By whom made Wm S Kincaid & Co when made 1922

Registered Horse Power Owners Indo China Steam Navigation Co Ltd Port belonging to London

Nom. Horse Power as per Section 28 298 ✓ Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

**ENGINES, &c.**—Description of Engines *Triple Compound* No. of Cylinders *Three* No. of Cranks *Three*  
 Dia. of Cylinders *21-34-57* Length of Stroke *42* Revs. per minute *78* Dia. of Screw shaft *as per rule 12-23* 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  
 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 *Yes* If two  
 liners are fitted, is the shaft lapped or protected between the liners *Yes* Length of stern bush *51*  
 Dia. of Tunnel shaft *as per rule 10-79* Dia. of Crank shaft journals *as per rule 11-93* Dia. of Crank pin *11 1/4* Size of Crank webs *15 1/2* Dia. of thrust shaft under  
 collars *11 1/2* Dia. of screw *15-0* Pitch of Screw *15-0* No. of Blades *4* State whether moveable *No* Total surface *674 ft*  
 No. of Feed pumps *Two* Diameter of ditto *3 1/2* Stroke *21* Can one be overhauled while the other is at work *Yes*  
 No. of Bilge pumps *Two* Diameter of ditto *4* Stroke *21* Can one be overhauled while the other is at work *Yes*  
 No. of Donkey Engines *Two* Sizes of Pumps *5-8 - 8-8* No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room *From 3'* In Holds, &c. *Two 2 1/2' Three 3' Deep Tank Two 3'*  
 Dry Tank *Two 3' on Bilge Line* Tunnel Well *One 2 1/2'*  
 No. of Bilge Injections *One* sizes *8'* Connected to condenser, or to circulating pump *From* Is a separate Donkey Suction fitted in Engine room & size *Yes 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 *Yes*  
 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 *Below*  
 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 *None*  
 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 *See Report attached hereto.*

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Total Heating Surface of Boilers 4455 Is Forced Draft fitted yes No. and Description of Boilers Two single drum

Working Pressure 180 lb Tested by hydraulic pressure to 320 lb Date of test 7/12/21 No. of Certificate 1593

Can each boiler be worked separately yes Area of fire grate in each boiler 52.5 sq ft No. and Description of Safety Valves to each boiler Two spring

Area of each valve 8.29 sq in Pressure to which they are adjusted 105 lb Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 27 in Mean dia. of boilers \_\_\_\_\_ Length \_\_\_\_\_ Material of shell plates \_\_\_\_\_

Thickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Are the shell plates welded or flanged \_\_\_\_\_ Descrip. of riveting: cir. seams \_\_\_\_\_

long. seams \_\_\_\_\_ Diameter of rivet holes in long. seams \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plates or width of butt straps \_\_\_\_\_

Per centages of strength of longitudinal joint \_\_\_\_\_ rivets \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_ Size of manhole in shell \_\_\_\_\_

plate \_\_\_\_\_

Size of compensating ring \_\_\_\_\_ No. and Description of Furnaces in each boiler \_\_\_\_\_ Material \_\_\_\_\_ Outside diameter \_\_\_\_\_

Length of plain part \_\_\_\_\_ top \_\_\_\_\_ Thickness of plates \_\_\_\_\_ crown \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_ No. of strengthening rings \_\_\_\_\_

bottom \_\_\_\_\_

Working pressure of furnace by the rules \_\_\_\_\_ Combustion chamber plates: Material \_\_\_\_\_ Thickness: Sides \_\_\_\_\_ Back \_\_\_\_\_ Top \_\_\_\_\_ Bottom \_\_\_\_\_

Pitch of stays to ditto: Sides \_\_\_\_\_ Back \_\_\_\_\_ Top \_\_\_\_\_ If stays are fitted with nuts or riveted heads \_\_\_\_\_ Working pressure by rules \_\_\_\_\_

Material of stays \_\_\_\_\_ Area at smallest part \_\_\_\_\_ Area supported by each stay \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ End plates in steam space: \_\_\_\_\_

Material \_\_\_\_\_ Thickness \_\_\_\_\_ Pitch of stays \_\_\_\_\_ How are stays secured \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ Material of stays \_\_\_\_\_

Area at smallest part \_\_\_\_\_ Area supported by each stay \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ Material of Front plates at bottom \_\_\_\_\_

Thickness \_\_\_\_\_ Material of Lower back plate \_\_\_\_\_ Thickness \_\_\_\_\_ Greatest pitch of stays \_\_\_\_\_ Working pressure of plate by rules \_\_\_\_\_

Diameter of tubes \_\_\_\_\_ Pitch of tubes \_\_\_\_\_ Material of tube plates \_\_\_\_\_ Thickness: Front \_\_\_\_\_ Back \_\_\_\_\_ Mean pitch of stays \_\_\_\_\_

Pitch across wide water spaces \_\_\_\_\_ Working pressures by rules \_\_\_\_\_ Girders to Chamber tops: Material \_\_\_\_\_ Depth and \_\_\_\_\_

thickness of girder at centre \_\_\_\_\_ Length as per rule \_\_\_\_\_ Distance apart \_\_\_\_\_ Number and pitch of stays in each \_\_\_\_\_

Working pressure by rules \_\_\_\_\_ 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 \_\_\_\_\_

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR.

State the articles supplied:—

The top end bolts, the bottom end bolts, the main bearing bolts, one set of connecting bolts, one set of dead pump valves, one set of bridge pump valves, the main shaft, the crank shaft, one pair of crank pin bushes, one pump bucket, rod, and head valve (one for the engine and one for the main bearing bushes), one slide valve spindle, one eccentric and clip, the safety valve springs, one check valve, the piston.

The 10 crank shaft is common to engines No. 345, 346, 347 and 348.

The foregoing is a correct description,  
DUNLOP, BREMER & COY, LIMITED

The Paton

Manufacturer.

Director

Dates of Survey while building  
During progress of work in shops -- 1920 Oct. 19, Nov. 5, 17, 23, Dec. 2, 1921, Jan. 24, 31, Feb. 9, 24, Mar. 14, 28, Apr. 1, 5, 16, 22, May 2, 11, 19, June 3, 17, Aug. 17  
During erection on board vessel --- Sept. 8, 9, 12, 16, 21, 26, 29, Oct. 3, 10, 12, 17, 24, 31, Nov. 4, 5, 15, 22, 29, Dec. 6, 13, 20, 22, 26, 1922, Jan. 12, 15, 20, 25, 31, Feb. 7, 9, 14  
Total No. of visits 52

Is the approved plan of main boiler forwarded herewith?

Dates of Examination of principal parts—Cylinders 17/10/21 Slides 31/10/21 Covers 31/1/21 Pistons 31/1/21 Rods 17/10/21  
Connecting rods 14/9/21 Crank shaft 16/4/21 Thrust shaft 16/4/21 Tunnel shafts 10/10/21 Screw shaft 24/10/21 Propeller 26/9/21  
Stern tube 29/4/21 Steam pipes tested 20/2/21 25/2/21 Engine and boiler seatings 13/12/21 Engines holding down bolts 12/1/22  
Completion of pumping arrangements 12/1/22 Boilers fixed 25/1/22 Engines tried under steam 31/1/22 + 14/2/22  
Completion of fitting sea connections 13/12/21 Stern tube 4/12/21 Screw shaft and propeller 13/12/21  
Main boiler safety valves adjusted 7/2/22 Thickness of adjusting washers P 1 1/2 - S 1 1/2 - P 1 1/2 S 2 1/4  
Material of Crank shaft Steel Identification Mark on Do. 595 Material of Thrust shaft Steel Identification Mark on Do. 595  
Material of Tunnel shafts Steel Identification Marks on Do. 595 Material of Screw shafts Steel Identification Marks on Do. 595  
Material of Steam Pipes Copper Test pressure 400 lb

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 'Fau Lang' No. 17920.

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

The Machinery and Boilers of this Steamer have been constructed under special survey, and placed on board in accordance with the Society's Rules. They are now in my opinion in safe working condition, and are respectfully submitted for the certification of L.M.C. 2-22 and F.D. in the Register Book.

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

L.M.C. - 2.22. F.D. C.L.

MACHINERY CERT. WRITTEN 23.2.22

The amount of Entry Fee ... £ 4 : 0  
Special ... £ 41 : 16  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for, 16/2/1922  
When received, 13/2/1922

Committee's Minute

GLASGOW 21 FEB 1922

Assigned + L.M.C. 2.22

James James,  
Engineer Surveyor to Lloyd's Register of Shipping.



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