

REPORT ON MACHINERY

No. 17920

WED. 30 NOV. 1921

Received at London Office

Date of writing Report 7 Nov 1921 When handed in at Local Office 23/11/1921 Port of Greenock
No. in Survey held at Port Glasgow Date, First Survey 19th Oct. 1920 Last Survey 22nd Nov. 1921
Reg. Book. on the Steel Steamer "Tau Sang" (Number of Visits 52) Gross 2256
Tons Net 1232
Master Built at Port Glasgow By whom built Dunlop Munro & Co. Ltd when built 1921
Engines made at Port Glasgow By whom made Dunlop Munro & Co. Ltd when made 1921
Boilers made at Greenock By whom made John S Kincaid & Co. Ltd when made 1921
Registered Horse Power Owners Indo China Steam Nav. 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 CompoundNo. of Cylinders Three No. of Cranks ThreeDia. of Cylinders 21" 34" 57" Length of Stroke 42" Revs. per minute 70 Dia. of Screw shaft 12.23 as per rule 12.23 Material of screw shaft 1000 as fitted 12 1/2Is 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 10.77 as per rule 11 Dia. of Crank shaft journals 11.33 as per rule 11 1/2 Dia. of Crank pin 11 1/2 Size of Crank webs 15 1/2 x 7 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 67 sq ftNo. of Feed pumps Two Diameter of ditto 6" 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 yesNo. of Donkey Engines Two Sizes of Pumps 5.8" x 8.8" No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room From 8" In Holds, &c. Two 2 1/2" Three 3" Deep Tank Two 5"No. of Bilge Injections Two sizes 8" Connected to condenser, or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes 4"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 yesAre all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks yesAre 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 belowAre 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 yesWhat pipes are carried through the bunkers yes How are they protected yesAre all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yesAre the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yesIs the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from Top PlatformBOILERS, &c.—(Letter for record S)Manufacturers of Steel Cochrane & Co. LtdTotal Heating Surface of Boilers 4485 sq ft Is Forced Draft fitted yes No. and Description of Boilers Two Lingue EndWorking Pressure 180 lb Tested by hydraulic pressure to 320 lb Date of test 8/6/21 No. of Certificate 1573Can 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 185 lb Are they fitted with easing gear yesSmallest distance between boilers or uptakes and bunkers or woodwork See Report attached hereto 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

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

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

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 End plates in steam space:

Material of stays Area at smallest part Area supported by each stay Working pressure by rules Material of stays

Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of Front plates at bottom

Area at smallest part Area supported by each stay Working pressure by rules Working pressure of plate by rules

Thickness Material of Lower back plate Thickness Greatest pitch of stays Mean pitch of stays

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

009008-009014-016

IS A DONKEY BOILER FITTED? *Yes*

If so, is a report now forwarded? *Yes*

SPARE GEAR. State the articles supplied:— *Two top end bolts. Two bottom end bolts. Two main bearing bolts. One set coupling bolts. One set feed pump valves. One set bilge pump valves. Bolts nuts &c. Propeller shaft. 1/3 crank shaft. One pair crank pin bushes. One pump bucket rod and head valve. One piston rod. One pair main bearing bushes. One slide valve spindle. One Ecc rod & clip. Ten safety valve springs. One check valve. Bolts nuts &c.*

The foregoing is a correct description,

DUNLOP, BREMNER & COY., LIMITED

Thos Paton

Manufacturer.

Director

Dates of Survey while building { During progress of work in shops - - 1920. Oct 19. Nov 5-17. 23. Dec. 2. 15-17. 27. 1921. Jan 12-24. 31. Feb 7-10. 21. 24. 25. Mar. 14. 18. 24. Apr. 1. 16. 22. May 2. 11. 19. 25. June 3-17. July 13-29. Aug. 17-18. Sept. 8-9. 12-16. 21. 26. 29. Oct. 3-10. 12-17. 19. 24. 28. 31. Nov 4-8. 15. 18. 22. During erection on board vessel - - - Total No. of visits 52.

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

" " " donkey " " "

Dates of Examination of principal parts—Cylinders *19/5/21* Slides *16/4/21* Covers *31/1/21* Pistons *31/1/21* Rods *16/4/21*

Connecting rods *2/5/21* Crank shaft *14/5/21* Thrust shaft *31/1/21* Tunnel shafts *14/5/21* Screw shaft *19/5/21* Propeller *19/5/21*

Stern tube *16/9/21* Steam pipes tested *19/10/21* & *28/10/21* Engine and boiler seatings *21/9/21* Engines holding down bolts *17/10/21*

Completion of pumping arrangements *17/10/21* Boilers fixed *24/10/21* Engines tried under steam *4/11/21*

Completion of fitting sea connections *8/9/21* Stern tube *21/9/21* Screw shaft and propeller *26/9/21*

Main boiler safety valves adjusted *4/11/21* & *15/11/21* Thickness of adjusting washers *P 5 1/16 S 5 1/16 P 4 1/16 S 1/2*

Material of Crank shaft *Steel* Identification Mark on Do. *589* Material of Thrust shaft *Steel* Identification Mark on Do. *589*

Material of Tunnel shafts *Steel* Identification Marks on Do. *589* Material of Screw shafts *Steel* Identification Marks on Do. *589*

Material of Steam Pipes *Copper* Test pressure *400 lb*

Is an installation fitted for burning oil fuel *No* 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 *Yes*

Is this machinery duplicate of a previous case *No* If so, state name of vessel —

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 the case is respectfully submitted for the notification of L.M.C. 11.21 & F.D. in the Register Book.

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

L.M.C. - 11.21. F.D. C.L.

Paul L.G. 2/12/21.

The amount of Entry Fee ... £ *4 : 0* : When applied for,

By Special ... £ *41 : 16* : *23/11/1921.*

Donkey Boiler Fee ... £ : : When received,

Travelling Expenses (if any) £ : : *24/11/1921.*

Committee's Minute *GLASGOW 29 NOV 1921.*

Assigned *- L M C 11.21*

MACHINERY CERT. WRITTEN

30/11/21

5/12/21

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



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