

Rpt. 4.

REPORT ON MACHINERY.

No. 42944

Received at London Office

WED. 15 AUG. 1923

Date of writing Report 9.8.1923 When handed in at Local Office 13.8.1923 Port of Glasgow
No. in Survey held at Glasgow Date, First Survey 8/12/22 Last Survey 8-8-1923
Reg. Book. on the S.S. "Marmahat" (Number of Visits 14) Gross 5419
Master Built at Glasgow By whom built G. Connell & Co. (397) When built 1923
Engines made at Glasgow By whom made Dunsmauir & Jackson 546 when made 1923.
Boilers made at do By whom made do 546 when made 1923.
Registered Horse Power Owners Asiatic S. S. Co. Port belonging to London
Nom. Horse Power as per Section 28 475 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 25"-42"-70" Length of Stroke 48 Revs. per minute 77 Dia. of Screw shaft as per rule 14.8" Material of screw shaft S.
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
liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 64"
Dia. of Tunnel shaft as per rule 13.22" Dia. of Crank shaft journals as per rule 13.88" Dia. of Crank pin 14 1/8" Size of Crank webs 27x9 3/4" Dia. of thrust shaft under
collars 14 1/8" Dia. of screw 18.0" Pitch of Screw 18.6" No. of Blades 4 State whether moveable Yes Total surface 101 1/2"
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 3 Sizes of Pumps 1-7"x9 1/2"x21" 1-7"x9 1/2"x21" No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room 4-3 1/2" In Holds, &c. N° 1, 2, 3. Two each @ 3 1/2", N° 4-4
3 1/2" with 2 1/2" branch to launch well, 3 1/2" branch to hold well, deep C 2-3 1/2"
No. of Bilge Injections 1 sizes 8 Connected to condenser, or to circulating pump Yes 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 Both Yes
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 Both
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 For Bilges How are they protected Hard sheathing
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 G. R. top platform
BOILERS, &c.—(Letter for record S) Manufacturers of Steel S. & S. of Scotland

Total Heating Surface of Boilers 6732 Is Forced Draft fitted Yes No. and Description of Boilers Two single ended
Working Pressure 200 Tested by hydraulic pressure to 350 Date of test 10.5.23 No. of Certificate 16250
Can each boiler be worked separately Yes Area of fire grate in each boiler 75.13" No. and Description of Safety Valves to
each boiler Pair spring loaded Area of each valve 11.048" Pressure to which they are adjusted 205" Are they fitted with easing gear Yes
Smallest distance between boilers or uptakes and bunkers or woodwork 12" Mean dia. of boilers 16.7 1/32" Length 12.9" Material of shell plates S.
Thickness 1 1/32" Range of tensile strength 30.34 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R.
long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 10 1/16" Lap of plates or width of butt straps 1-10 3/8"
Per centages of strength of longitudinal joint rivets 89.3 Working pressure of shell by rules 201 Size of manhole in shell 16"x12"
Size of compensating ring 38 1/2"x32 1/2"x1 1/8" No. and Description of Furnaces in each boiler 4. daylight Material S. Outside diameter 3'9"
Length of plain part top bottom Thickness of plates crown 2 1/32" Description of longitudinal joint welded No. of strengthening rings None
Working pressure of furnace by the rules 227 Combustion chamber plates: Material S Thickness: Sides 23/32" Back 23/32" Top 23/32" Bottom 7/8"
Pitch of stays to ditto: Sides 9 1/2"x9 1/2" Back 9 1/2"x9 1/2" Top 10 1/2"x8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 201
Material of stays S. Area at smallest part 2.36 Area supported by each stay 9 1/2"x9 1/2" Working pressure by rules 236 End plates in steam space:
Material S. Thickness 1 1/32" Pitch of stays 22 1/2"x18" How are stays secured D. nuts Working pressure by rules 204 Material of stays S.
Area at smallest part 7.66" Area supported by each stay 40.5" Working pressure by rules 205 Material of Front plates at bottom S.
Thickness 1" Material of Lower back plate S. Thickness 7/8" Greatest pitch of stays 15"x9 1/2" Working pressure of plate by rules 203
Diameter of tubes 2 3/4" Pitch of tubes 3 7/8"x3 7/8" Material of tube plates S Thickness: Front 1" Back 13/16" Mean pitch of stays 9 1/16"
Pitch across wide water spaces 13 5/8" Working pressures by rules 203 Girders to Chamber tops: Material Iron Depth and
thickness of girder at centre 11"x2" Length as per rule 40 1/32" Distance apart 10 1/8" Number and pitch of stays in each 4 28"
Working pressure by rules 204 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

W203-0080

IS A DONKEY BOILER FITTED? *Yes*

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

SPARE GEAR. State the articles supplied:— *1/3 crank shaft, one propeller shaft, two each top and bottom end bolts and nuts, two main bearing bolts & nuts, one set of coupling bolts, one set of feed and bilge pump valves, one set of piston springs, one each H. & I. P. eccentric rods & shafts, a quantity of assorted bolts & nuts, iron of various sizes, etc.*

The foregoing is a correct description,

James Hetherington
Director

Manufacturer.

Dates of Survey while building { During progress of work in shops -- *1922 Dec 8-12-22-26. 1923. Jan 9-11-17-23-25-31. Feb 1-5-7-12-14-19-22-27. Mar 1-5-7-15-16-19-26-30.*
During erection on board vessel -- *Apr 5-9-13-20-27. May 2-3-7-10-16-23. June 5-6-12-20-25-27. July 2-27. Aug 8.*
Total No. of visits *46.*

Is the approved plan of main boiler forwarded herewith *No (see 5)*
" " " donkey " " *No (*

Dates of Examination of principal parts—Cylinders *26-3-23* Slides *9-4-23* Covers *26-3-23* Pistons *9-4-23* Rods *2-5-23*
Connecting rods *2-5-23* Crank shaft *26-3-23* Thrust shaft *26-3-23* Tunnel shafts *12-6-23* Screw shaft *27-4-23* Propeller *5-4-23*
Stern tube *27-4-23* Steam pipes tested *2-8-23* Engine and boiler seatings *6-6-23* Engines holding down bolts *27-6-23*
Completion of pumping arrangements *27-7-23.* Boilers fixed *27-6-23.* Engines tried under steam *8-8-23.*
Completion of fitting sea connections *6-6-23* Stern tube *6-6-23* Screw shaft and propeller *6-6-23.*
Main boiler safety valves adjusted *27-7-23* Thickness of adjusting washers *P.B. P.V. 9/16 S.V. 7/32 S.B. P.V. 1/2 S.V.*
Material of Crank shaft *S* Identification Mark on Do. *546 J.S.C.* Material of Thrust shaft *S* Identification Mark on Do. *546 J.S.C.*
Material of Tunnel shafts *S* Identification Marks on Do. *546 J.S.C.* Material of Screw shafts *S* Identification Marks on Do. *546 J.S.C.*
Material of Steam Pipes *Iron* Test pressure *500 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 *No* If so, state name of vessel *"Turjehan"*

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 the Society's Rules and approved plans, the materials and workmanship are good, and the machinery has been satisfactorily tried under steam, and in my opinion eligible to be classed + L.M.C.B. 23.*

It is submitted that this vessel is eligible for THE RECORD. *+ L.M.C.B. 23. F.D. C.L.*

Ans
16/8/23.

The amount of Entry Fee ... £ *5* : *0* : *0* When applied for,
Special ... £ *96* : *5* : *0* 11/8/23
Donkey Boiler Fee ... £ : : When received,
Travelling Expenses (if any) £ : : 16/8/23

Committee's Minute
Assigned *+ L.M.C.B. 23.*
GLASGOW 14 AUG 1923

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

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Foundation