

Rpt. 4.

## REPORT ON MACHINERY.

No. 17238.

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Date of writing Report 31 Dec 1917 When handed in at Local Office 1 Jan 1918 Port of GreenockNo. in Survey held at Greenock Date, First Survey 23<sup>rd</sup> August, 1916, Last Survey 28<sup>th</sup> December, 1917  
Reg. Book. on the Steel Steamer "Mahoud" (Number of Vessels 123)Master                      Built at 11 Glasgow By whom built Russell & Co When built 1917Engines made at Greenock By whom made John & Kincaid & Co Ltd when made 1917Boilers made at Greenock By whom made John & Kincaid & Co Ltd when made 1917Registered Horse Power                      Owners T. & J. Brocklebank, Ltd. Port belonging to LiverpoolNom. Horse Power as per Section 28 774 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted YesENGINES, &c.—Description of Engines Triple compound No. of Cylinders Three No. of Cranks ThreeDia. of Cylinders 28" 4 7/2 - 80" Length of Stroke 54" Revs. per minute 70 Dia. of Screw shaft as per rule 16.02 Material of Steel  
as fitted 17 1/4 screw shaftIs 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 tightin 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 partbetween the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Yes If twoliners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 69"Dia. of Tunnel shaft as per rule 15.61 Dia. of Crank shaft journals as fitted 15 1/4 Dia. of Crank pin 16" Size of Crank webs 24" 10 1/2 Dia. of thrust shaft undercollars 16.0 Dia. of screw 18.6 Pitch of Screw 18.8 No. of Blades 4 State whether moveable Yes Total surface 110 sq ftNo. of Feed pumps Two Diameter of ditto 12" Stroke 24" Can one be overhauled while the other is at work YesNo. of Bilge pumps Two Diameter of ditto 4 1/2" Stroke 28" Can one be overhauled while the other is at work YesNo. of Donkey Engines Three Sizes of Pumps 7" 18" 12" 18" 8" 12" No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room Four 3/4" In Holds, &c. Three 3/4" Tunnel 2 1/2"Circulating Steam Supply EngineNo. of Bilge Injections Two sizes 10" 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 YesAre all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks BothAre 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 BothAre 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 Upper deckBOILERS, &c.—(Letter for record 2) Manufacturers of Steel Whitell, Chace & Co Ltd 2559 Dagen Road, Hill 14969 (32) the single endedTotal Heating Surface of Boilers 12410 Is Forced Draft fitted Yes No. and Description of Boilers Two single endedWorking Pressure 200 lb Tested by hydraulic pressure to 400 lb Date of test 16/11/17 No. of Certificate 1315Can each boiler be worked separately Yes Area of fire grate in each boiler 123 sq ft No. and Description of Safety Valves toeach boiler Two the spring Area of each valve 12.56 sq in Pressure to which they are adjusted 205 lb Are they fitted with easing gear YesSmallest distance between boilers or uptakes and bunkers or woodwork 12" Mean dia. of boilers 17.0" Length 19.6" Material of shell plates SteelThickness 1 1/2" Range of tensile strength 29 1/4 - 33 Are the shell plates welded or flanged Yes Descrip. of riveting: cir. seams 3/4 in laplong. seams all ship side Diameter of rivet holes in long. seams 1 7/8" Pitch of rivets 10 1/2" Lap of plates or width of butt straps 22 1/2"Per centages of strength of longitudinal joint 87.0 Working pressure of shell by rules 200 lb Size of manhole in shell 16" x 12"Size of compensating ring 1 1/2" No. and Description of Furnaces in each boiler 8 Brightons Material Steel Outside diameter 45 1/4"Length of plain part top Thickness of plates crown Description of longitudinal joint butted No. of strengthening rings CompyWorking pressure of furnace by the rules 223 lb Combustion chamber plates: Material Steel Thickness: Sides 1 1/8" Back 1 1/8" Top 1 1/8" Bottom 1 1/8"Pitch of stays to ditto: Sides 9 1/2" - 8 1/2" Back 9 1/2" - 8 1/2" If stays are fitted with nuts or riveted heads Yes Working pressure by rules 202 lbMaterial of stays Steel Area at smallest part 2.36 sq in Area supported by each stay 8.1 sq in Working pressure by rules 219 lb End plates in steam space:Material Steel Thickness 1 7/16" Pitch of stays 23" - 21 1/4" How are stays secured all new Working pressure by rules 201 lb Material of stays SteelArea at smallest part 9.82 sq in Area supported by each stay 4.86 sq in Working pressure by rules 211 lb Material of Front plates at bottom SteelThickness 1 1/8" Material of Lower back plate Steel Thickness 1 1/8" Greatest pitch of stays 1 1/8" Working pressure of plate by rules 202 lbDiameter of tubes 5" Pitch of tubes 4 1/4" - 4 1/8" Material of tube plates Steel Thickness: Front 1 1/8" Back 1 1/8" Mean pitch of stays 8 1/2" - 8 1/2"Pitch across wide water spaces 14" Working pressures by rules 207 lb Girders to Chamber tops: Material Steel Depth andthickness of girder at centre 13 1/2" - 1 1/4" Length as per rule 49.51" Distance apart 8 1/4" Number and pitch of stays in each Four 9 1/4"Working pressure by rules 205 lb 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                     77. 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                     

003556 - 005566-0228



IS A DONKEY BOILER FITTED? *Yes* *Main engine bedded* 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 dead pump valves, One set bridge pump valves, Crank pin bush complete, One eccentric shaft complete, One propeller blades, Bolts and nuts for same, Air pump rod, Three safety valve springs. Bolts nuts &c.*

The foregoing is a correct description,

FOR JOHN G. KINCH

*J. W. Ingham*

DIRECTOR Manufacturer.

Dates of Survey while building { During progress of work in shops - - { *(17/6) Aug. 23-25. Sep. 11-13. Oct. 9-11. 13-20. 24-26. 30. Nov. 13-15. 18-20. 24-26. Dec. 1-3. 12-15. 22-24. (17-19) Jan. 7-12. 16-17. 19-22. 24-26. 29-31. Feb. 5-8. 16-20. 22-24. Mar. 2-5. 9-12. 15-17. 21-23. 26-28. Apr. 2-4. 11-13. 16-18. 21-23. May 2-4. 11-13. 16-18. 21-23. June 4-6. 11-13. 16-18. 21-23. July 2-4. 11-13. 16-18. 21-23. Aug. 3-5. 10-12. 14-16. 21-23. 28-30. Sep. 3-5. 25-27. 29-30. Oct. 1-3. 10-12. 14-16. 21-23. 28-30. Nov. 2-4. 11-13. 16-18. 21-23. Dec. 5-10. 13-17. 19-20. 21-22. 24-25. 26-28. 31-7.*  
Total No. of visits *123.*

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

" " *Yes*

Dates of Examination of principal parts—Cylinders *26/9/17* Slides *26/9/17* Covers *26/9/17* Pistons *22/10/17* Rods *26/9/17*

Connecting rods *26/9/17* Crank shaft *26/9/17* Thrust shaft *22/10/17* Tunnel shafts *10/12/17* Screw shaft *6/11/17* Propeller *29/10/17*

Stern tube *5/9/17* Steam pipes tested *10/12/17* Engine and boiler seatings *28/9/17* Engines holding down bolts *10/12/17*

Completion of pumping arrangements *10/12/17* Boilers fixed *10/12/17* Engines tried under steam *25/12/17*

Completion of fitting sea connections *25/9/17* Stern tube *25/9/17* Screw shaft and propeller *19/12/17*

Main boiler safety valves adjusted *26/12/17* Thickness of adjusting washers *2 7/16 5 1/16 - 2 7/16 5 1/16 - 2 7/16 5 1/16.*

Material of Crank shaft *Steel* Identification Mark on Do. *2307 0* Material of Thrust shaft *Steel* Identification Mark on Do. *2307 0*

Material of Tunnel shafts *Steel* Identification Marks on Do. *2307 0* Material of Screw shafts *Steel* Identification Marks on Do. *2307 0*

Material of Steam Pipes *Steel* Test pressure *600 lb*

Is an installation fitted for burning oil fuel *Yes* 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 *Yes* If so, state name of vessel *Yes*

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