

REPORT ON MACHINERY.

No. 16497

Received at London Office

WED. JUL. 2-1913

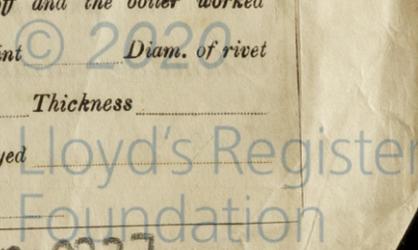
Date of writing Report 10 When handed in at Local Office 27/6/1913 Port of Greenock
 No. in Survey held at Greenock Date, First Survey 4th Dec. 1911 Last Survey 26th June 1913
 Reg. Book. Greenock (Number of Visits 101) Gross 4722
 on the **SCREW STEAMER "UNCAS"** Tons Net 2897

Master P. Stewart Built at Greenock By whom built Greenock Engineering Co. When built 1913
 Engines made at Greenock By whom made Rankin & Blackmore when made 1913
 Boilers made at Greenock By whom made Rankin & Blackmore when made 1913
 Registered Horse Power 440 Owners Tank Storage & Carriage Co. Ltd. Port belonging to Greenock
 Nom. Horse Power as per Section 28 440 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 Three
 Dia. of Cylinders 24 44-45 Length of Stroke 48 Revs. per minute 68 Dia. of Screw shaft 14 1/8 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 one length 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 5' 6"
 Dia. of Tunnel shaft 13 3/8 Dia. of Crank shaft journals 13 9/16 Dia. of Crank pin 14 1/2 Size of Crank webs 19 1/2 x 9 Dia. of thrust shaft under
 collars 14 1/2 Dia. of screw 18 0 Pitch of Screw 17 3/8 No. of Blades 4 State whether moveable No Total surface 105 sq. ft.
 No. of Feed pumps 2 Diameter of ditto 4 Stroke 26 Can one be overhauled while the other is at work Yes WEIRS FEED PUMP
 No. of Bilge pumps 2 Diameter of ditto 4 1/2 Stroke 26 Can one be overhauled while the other is at work Yes 10 1/2 x 8 x 21
 No. of Donkey Engines Three Sizes of Pumps 4 x 5 x 8, 6 x 4 1/2 x 6, 8 x 8 x 8 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Three 3 1/2 dia. In Holds, &c. Hold 1 - 2 dia. from Cofferdam 1 - 3 dia.
 Pump Room 1 - 3 dia.
 No. of Bilge Injections 1 sizes 8 1/2 Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size Yes 3 1/2 dia.
 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 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 Yes
 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
 Dates of examination of completion of fitting of Sea Connections 17/4/13 of Stern Tube 17/4/13 Screw shaft and Propeller 29/4/13
 Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door Yes worked from Yes

BOILERS, &c.—(Letter for record 7) Manufacturers of Steel W. Beardmore & Co. Ltd.
 Total Heating Surface of Boilers 8202 Is Forced Draft fitted No No. and Description of Boilers 3 Cylinders Hull Single
 Working Pressure 180 lb Tested by hydraulic pressure to 360 lb Date of test 21/4/13 No. of Certificate 1107 & 1109
 Can each boiler be worked separately Yes Area of fire grate in each boiler 65 sq. ft. No. and Description of Safety Valves to
 each boiler 2 Steel Spring Loaded Area of each valve 8.29 Pressure to which they are adjusted 185 lb Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork about 27 Mean dia. of boilers 16 3/4 Length 12 0 Material of shell plates Steel
 Thickness 1 3/8 Range of tensile strength 28 to 32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap Double
 long. seams Straps Diameter of rivet holes in long. seams 1 3/8 Pitch of rivets 9 3/8 4 1/8 Lap of plates or width of butt straps 20 1/2
 Per centages of strength of longitudinal joint rivets 86.2 Working pressure of shell by rules 180 lb Size of manhole in shell 16 x 12
 plate 86
 Size of compensating ring 20 1/2 x 26 1/2 x 1 3/8 No. and Description of Furnaces in each boiler 3 Dightons Material Steel Outside diameter 50 1/2
 Length of plain part top 19 Thickness of plates bottom 32 Description of longitudinal joint weld No. of strengthening rings None
 Working pressure of furnace by the rules 187 lb Combustion chamber plates: Material Steel Thickness: Sides 3/4 Back 5/8 Top 3/4 Bottom 7/8
 Pitch of stays to ditto: Sides 9 1/2 x 8 Back 8 1/2 x 8 1/2 Top 8 1/2 x 8 1/2 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 185 lb
 Material of stays Sp. Iron Diameter at smallest part 1 5/8 Area supported by each stay 47 Working pressure by rules 245 lb End plates in steam space:
 Material Steel Thickness 1 7/8 Pitch of stays 20 5/8 x 16 1/2 How are stays secured With nuts Working pressure by rules 181 lb Material of stays Steel
 Diameter at smallest part 3 1/8 Area supported by each stay 342 Working pressure by rules 247 lb Material of Front plates at bottom Steel
 Thickness 7/8 Material of Lower back plate Steel Thickness 3/4 Greatest pitch of stays 12 1/2 Working pressure of plate by rules 207 lb
 Diameter of tubes 3 1/4 Pitch of tubes 4 1/2 x 4 7/8 Material of tube plates Steel Thickness: Front 3/4 Back 3/4 Mean pitch of stays 9 1/8
 Pitch across wide water spaces 13 1/2 Working pressures by rules 189 lb Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 10 1/2 x 1 1/2 Length as per rule 37 5/8 Distance apart 8 3/4 Number and pitch of stays in each 3: 8 3/4
 Working pressure by rules 186 lb Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked
 separately Yes Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet
 holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness
 If stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed
 Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear Yes

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VERTICAL DONKEY BOILER— Manufacturers of Steel

No. *✓* Description

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____ Fire grate area _____ Description of Safety Valves _____

No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Date of adjustment _____

If fitted with easing gear _____ If steam from main boilers can enter the donkey boiler _____ Dia. of donkey boiler _____ Length _____

Material of shell plates _____ Thickness _____ Range of tensile strength _____ Descrip. of riveting long. seams _____

Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____ Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Plates _____

Working pressure of shell by rules _____ Thickness of shell crown plates _____ Radius of do. _____ No. of stays to do. _____ Dia. of stays _____

Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Description of joint _____

Working pressure of furnace by rules _____ Thickness of furnace crown plates _____ Radius of do. _____ Stayed by _____

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— 1 Propeller, 1 Propeller shaft & nut, 1 set Rings for H.P. Piston valves, 1 set Springs for H.P. Pistons, 6 Valve seats for general Donkey, 6 valves for Ballast pump, 2 Safety & Escape valve Springs, 1 set Ballast packing for H.P. Rod & Spindles, 2 Feed Escape valve Springs, 2 D. Robin check valves, 1 set Spare Gear for Main pumps, 12 Piston Sticks & nuts, 1 set Slide Spindles & saddle blocks, 1 set Main crank pin bushes, 1 Main Crosshead Bushes, 1 set Air Pump Bushes & Rod, 1 set Air pump valves, 2 Condenser tubes, 100 Condenser formers, 1 Eccentric head & strap, 26 Boiler tubes, 6 Joint Ring Bolts, 1 set Spare gear for Centrifugal pump, 2 set valves for D. Robin feed pump, 1 Thrust Block shoe, 1 nut White metal, 6 Holding down Bolts, 12 Cylinder cover studs, 6 valve check cover studs, 2 main feed check valves and list of spare gear required by the Rules.

The foregoing is a correct description,

Ransom Macdonald

Manufacturers _____

Dates of Survey while building	During progress of work in shops --	1911. Dec. 4. 6. 11. 15. 21. 28. 1912. Jan. 15. 18. 25. 29. Febr. 2. 7. 13. 16. 21. 27. Mar. 5. 11. 14. 20. 25.
		26. Sept. 4. 10. 16. 19. 26. Oct. 1. 3. 10. 11. 16. 23. 28. Nov. 5. 8. 14. 18. 25. Dec. 4. 9. 13. 18. 20. 1913. Jan. 16. 23. Feb. 14. 18.
Total No. of visits	During erection on board vessel --	Mar. 8. 12. 18. 20. 25. 26. Apr. 1. 10. 14. 16. 17. 21. 28. 29. May. 1. 5. 14. 16. 19. 22. 27. 29. June 2. 17. 18. 19. 23. 24. 26.
		101

Is the approved plan of main boiler forwarded herewith *Yes. ✓*
 " " " donkey " " " *Yes. ✓*

Dates of Examination of principal parts—Cylinders 29/1/12 Slides 5/6/12 Covers 23/6/13 Pistons 20/3/13 Rods 1/4/12
 Connecting rods 1/4/12 Crank shaft *see Report* Thrust shaft 29/1/12 Tunnel shafts 29/1/12 Screw shaft 10/4/13 Propeller 10/4/13
 Stern tube 5/6/12 Steam pipes tested at Glasgow. Engine and boiler seatings 17/4/13 Engines holding down bolts 19/6/13.
 Completion of pumping arrangements 19/6/13 Boilers fixed 23/6/13 Engines tried under steam 23/6/13.
 Main boiler safety valves adjusted 17/6/13. Thickness of adjusting washers *SB, PV, ST, PE, PV, ST, FE, PV, ST, SB, DV, B, FV, AV, 32.*
 Material of Crank shaft *Steel* Identification Mark on Do. 2685. Material of Thrust shaft *Steel* Identification Mark on Do. 1183.
 Material of *Interm.* Tunnel shafts *Steel* Identification Marks on Do. 1184 Material of Screw shafts *Steel* Identification Marks on Do. 1185.
 Material of Steam Pipes *Wrought Iron ✓* Test pressure 540 lbs. *✓*

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

The Engines and Boilers of this vessel were built under special survey and the materials and workmanship are good. On completion they underwent a full power trial in the Firth and were found to work satisfactorily.
 The machinery throughout is now in good and efficient condition and eligible in my opinion to have the record of **LMC. 6, 13.** marked in the Society's Register Book.

It is submitted that this vessel is eligible for THE RECORD. + LMC 6.13.

J.W.D. 3/7/13 *J.P.R.*

The amount of Entry Fee .. £ 3 : : : When applied for,	
Special .. £ 40 : 10 : : 23/6/13	
Donkey Boiler Fee .. £ : : : When received,	
Travelling Expenses (if any) £ : : : 30/5/13	

Wm. Austin
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute GLASGOW 1-JUL-1913

Assigned + L.M.C. 6,13



MACHINERY CERTIFICATE WRITTEN 2-7-13

Greenock

Certificate (if required) to be sent to

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