

REPORT ON MACHINERY.

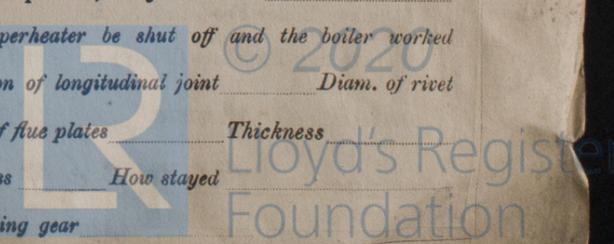
No. 34190

Date of writing Report 19 When handed in at Local Office 3. 7. 1914 Port of Glasgow Received at London Office TUE. JUL. - 7. 1914
 No. in Survey held at Clydebank Date, First Survey 19. 12. 13 Last Survey 23. 6. 1914
 Reg. Book. on the 1/2 Linda Blanche (Number of Visits 17) Tons Gross 530. Net 199.
 Master Bowling Built at Bowling By whom built Scott & Sons When built 1914
 Engines made at Clydebank By whom made Aitchison Blair & Co when made 1914
 Boilers made at Glasgow By whom made D Rowan & Co when made 1914
 Registered Horse Power 103 Owners Anglesey Shipping Co Ltd Port belonging to Beaumaris
 Nom. Horse Power as per Section 28 103 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 14-23-38 Length of Stroke 27 Revs. per minute 120 Dia. of Screw shaft as per rule 7.89 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 — 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 — Length of stern bush 2'-10"
 Dia. of Tunnel shaft as per rule 4.11 Dia. of Crank shaft journals as per rule 4.46 Dia. of Crank pin 7 1/2 Size of Crank webs 5x10 1/2 Dia. of thrust shaft under collars 7 1/2 Dia. of screw 9'-6" Pitch of Screw 11'-6" No. of Blades 4 State whether moveable no Total surface 28.8 sq ft
 No. of Feed pumps 2 Diameter of ditto 2 1/4 Stroke 14" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 2 1/4 Stroke 14" Can one be overhauled while the other is at work yes
 No. of Donkey Engines 3 duplex Sizes of Pumps 4 1/2 - 4 1/2 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps 2 of 2 1/2"
 In Engine Room 1 of 2" In Hold, &c. 2 of 2 1/2"
 No. of Bilge Injections 1 sizes 4" Connected to condenser, or to circulating pump circ. pump Is a separate Donkey Suction fitted in Engine room & size yes 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
 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 bilge How are they protected wood casing
 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 21-5-14 of Stern Tube 21-5-14 Screw shaft and Propeller 21-5-14
 Is the Screw Shaft Tunnel watertight none Is it fitted with a watertight door — worked from —

BOILERS, &c.—(Letter for record —) Manufacturers of Steel Boiler by D Rowan & Co - see separate report (204)
 Total Heating Surface of Boilers 1905 sq ft Is Forced Draft fitted no No. and Description of Boilers one single ended
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 22/4/14 No. of Certificate 12669
 Can each boiler be worked separately — Area of fire grate in each boiler — No. and Description of Safety Valves to each boiler 2 direct spring Area of each valve 5.94 sq in Pressure to which they are adjusted 185 lbs Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 2'-0" Mean dia. of boilers — Length — Material of shell plates —
 Thickness — Range of tensile strength — Are the shell plates welded or flanged — Descrip. of riveting: circ. 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 — 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 — Thickness of plates — 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 —
 Material of stays — Diameter 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 —
 Diameter 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 — Superheater or Steam chest; how connected to boiler — Can the superheater be shut off and the boiler worked separately — 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 —

W834-0032



VERTICAL DONKEY BOILER— *Manufacturers of Steel by Anderson & Son. See separate report.*

No. *one* Description *Vertical Cross Tube.*

Made at *Carfin* By whom made *Anderson & Son* When made *1914* Where fixed *Stokehold*

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

Valves *direct spring* No. of Safety Valves *2* Area of each *2.4* Pressure to which they are adjusted *105 lbs* Date of adjustment *17.6.14*

If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* 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 *Adjusting washers PV 13/32*

SPARE GEAR. State the articles supplied:— *2 top end, 2 bottom end, 2 main bearing and set of coupling bolts and nuts. set of feed & bilge pump valves. Assorted iron, bolts & nuts. NP piston valve. 1/2 eccentric strap. 3 feed check valves.*

AITCHISON, BLAIR LTD.

The foregoing is a correct description,

Manufacturer.

Archd Blair Director

Dates of Survey while building

During progress of work in shops --	1913 Dec 19.	1914 Jan 8. 15. 19. 21.	Feb 5	Mar 4. 11.	Apr 1. 28.	May 11. 21.	Jun 1.
	During erection on board vessel --- 1. 8. 15. 17. 23.						
	Total No. of visits 17.						

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

" " " donkey " " " *no*

Dates of Examination of principal parts—Cylinders *19. 12. 13* Slides *28. 4. 14* Covers *11. 5. 14* Pistons *19. 1. 14* Rods *19. 12. 13*

Connecting rods *19. 12. 13* Crank shaft *21. 1. 14* Thrust shaft *11. 5. 14* Tunnel shafts _____ Screw shaft *11. 5. 14* Propeller *1. 4. 14*

Stern tube *11. 5. 14* Steam pipes tested *16. 6. 14* Engine and boiler seatings *21. 5. 14* Engines holding down bolts *1. 6. 14*

Completion of pumping arrangements *14. 6. 14* Boilers fixed *17. 6. 14* Engines tried under steam *23. 6. 14*

Main boiler safety valves adjusted *14. 6. 14* Thickness of adjusting washers *PV 3/8 base. 5V 3/8*

Material of Crank shaft *Iron* Identification Mark on Do. *8Y KC* Material of Thrust shaft *steel* Identification Mark on Do. *8Y*

Material of Tunnel shafts *none* Identification Marks on Do. _____ Material of Screw shafts *steel* Identification Marks on Do. *8Y*

Material of Steam Pipes *Copper* Test pressure *360 lbs*

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

The machinery of this vessel has been constructed under special survey in accordance with the rules, and has been seen working under steam satisfactorily. Materials & workmanship are good.

This machinery is eligible in my opinion to be classed + LMC. 6. 14.

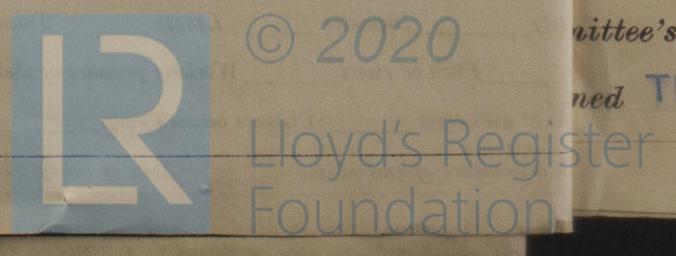
It is submitted that this vessel is eligible for THE RECORD. + LMC. 6. 14.

JWR
7/7/14
APR

The amount of Entry Fee	£ 2 : 0 :	When applied for,	
Special	£ 9 : 2 :	3/7/14	1914
Donkey Boiler Fee	£ :	When received,	
Travelling Expenses (if any)	£ :	6/7/14	1914

Harry Clarke
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

Committee's Minute **GLASGOW 6 - JUL 1914**
Assigned *+ LMC 6. 14.*



GLASGOW

Certificate (if required) to be sent to

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

EXHIBIT CERTIFICATE WRITTEN 7. 7. 14