

REPORT ON MACHINERY.

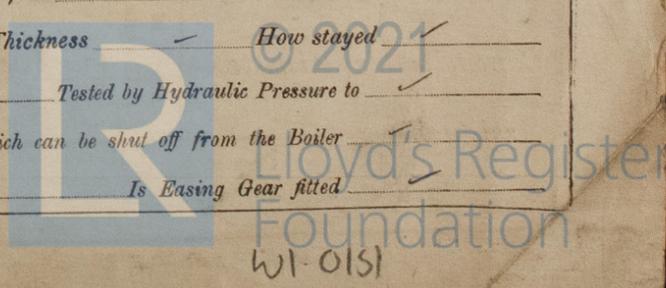
Received at London Office SAT. NOV. 24 1917.

Date of writing Report 19 When handed in at Local Office 19 Port of DUNDEE.
 No. in Survey held at Dundee Date, First Survey Oct. 24th 1914. Last Survey Nov. 14th 1917.
 Reg. Book. 315 on the S.S. "AGUILA" (Number of Visits 66.) Gross 3255 Tons Net 1854 88
 Master J. Sunderfast Built at Dundee By whom built Caledon S.S. Co. Ltd. When built 1914
 Engines made at Dundee By whom made Caledon S.S. Co. Ltd. when made 1914
 Boilers made at do By whom made do when made 1914
 Registered Horse Power _____ Owners Howard Bros. Port belonging to Liverpool.
 Nom. Horse Power as per Section 28 395 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion, Surface Condensing No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 25. 42. 68 Length of Stroke 42" Revs. per minute 82 Dia. of Screw shaft as per rule 3.26 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 — If two liners are fitted, is the shaft lapped or protected between the liners — Length of stern bush 4'-6"
 Dia. of Tunnel shaft as per rule 12.18 Dia. of Crank shaft journals as per rule 12.49 Dia. of Crank pin 13" Size of Crank webs 23 1/2 x 8 3/4 Dia. of thrust shaft under collars 13" Dia. of screw 15'-6" Pitch of Screw 15'-0" No. of Blades 4 State whether moveable no Total surface 80 sq ft
 No. of Feed pumps 2 Diameter of ditto 3 3/4" Stroke 24" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 3 3/4" Stroke 24" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 5 Sizes of Pumps 7 x 6 x 10 (Fresh water) 5 x 4 x 6 (Fresh water) 4 x 4 x 6 (Sea water) No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Two @ 3 1/2" aft. Two @ 3 1/2" Fore. One @ 3 1/2" Tunnel well. In Holds, &c. Fore hold 1 @ 3". Fore hold, 2 @ 3 1/2". Main hold, 2 @ 3 1/2" after hold well, 1 @ 3 1/2"
 No. of Bilge Injections one sizes 8 Connected to condenser or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room of 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 —
 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 _____ How are they protected _____
 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 Top platform.

BOILERS, &c.—(Letter for record) Manufacturers of Steel H. BEARDMORE & CO. D. COLVILLE & SONS FRODINGHAM IRON & STEEL CO. LD. JOHN SPENCER & SONS, LEEDS. FORCE & CO. LD.
 Total Heating Surface of Boilers 1054.5 Is Forced Draft fitted no No. and Description of Boilers Three, S.E. return tube
 Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 15.8.16. No. of Certificate 962
 Can each boiler be worked separately Yes Area of fire grate in each boiler 18.63 sq ft No. and Description of Safety Valves to each boiler Two, spring loaded Area of each valve 4.06 Pressure to which they are adjusted 183 lb sq in Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork _____ Mean dia. of boilers 16'-1 1/2" Length 11'-0" Material of shell plates Steel
 Thickness 1 1/32" Range of tensile strength 28/32 Are the shell plates welded or flanged — 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 3/8" Lap of plates or width of butt straps 1'-10 3/8"
 Per centages of strength of longitudinal joint rivets 86.3 plate 85.5 Working pressure of shell by rules 209 Size of manhole in shell 17" x 13"
 Size of compensating ring 11 x 1 1/32" No. and Description of Furnaces in each boiler 3. Suspension type. Material Steel Outside diameter 4'-3 1/4"
 Length of plain part top 10" Thickness of plates crown 1 1/32" Description of longitudinal joint welded No. of strengthening rings — bottom 3/32"
 Working pressure of furnace by the rules 183.2 Combustion chamber plates: Material Steel Thickness: Sides 19/32 Back 19/32 Top 5/8" Bottom 1"
 Pitch of stays to ditto: Sides 8 1/2 x 4 1/2 Back 8 1/4 x 8 Top 4 3/4 x 9 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 5. 190.3
 Material of stays Steel Area at smallest part 1.45 to 2.41 (center) Area supported by each stay 64 sq in Working pressure by rules 181.2 End plates in steam space: Material Steel Thickness 1 1/8" Pitch of stays 19" x 15 3/4" How are stays secured D. & S. latches Working pressure by rules 186.2 Material of stays Steel
 Area at smallest part 6.49 Area supported by each stay 304.6 Working pressure by rules 221 Material of Front plates at bottom Steel
 Thickness 27/32" Material of Lower back plate Steel Thickness 13/16" Greatest pitch of stays 11" x 22" Working pressure of plate by rules 185
 Diameter of tubes 3 1/2" Pitch of tubes 4 3/4" Material of tube plates Steel Thickness: Front 27/32 Back 3/4" Mean pitch of stays 9.5
 Pitch across wide water spaces 14 1/2" Working pressures by rules 250 Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 9 1/4 x 7 1/8 (Luo) Length as per rule 36 1/2" Distance apart 9" Number and pitch of stays in each Three, 4 3/4"
 Working pressure by rules 196 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 _____



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 2 top end bolts & nuts, 2 bottom end bolts & nuts, 2 main bearing bolts & nuts, one set coupling bolts & nuts, one set feed & bilge pump valves, one set piston rings for each engine, Assorted bolts & nuts, & iron of various sizes. Also the following:— one propeller shaft, one pair connecting rod brasses, 3 dozen Condenser tubes

The foregoing is a correct description, FOR THE CALEDON SHIPBUILDING & ENGINEERING CO., LIMITED

J. B. Green SECRETARY, Manufacturer.

Dates of Survey while building: During progress of work in shops (1914: Oct. 24, Dec. 28, 1915: Jan. 14, 25, 31, Feb. 21, 28, Mar. 20, Apr. 19, June 9, 30, July 4, 18, 21, 27, Aug. 4, 14, 15, Sep. 1, 4, 11, 18, 25, 30, Oct. 2, 13, 20, Nov. 10, 19, 30; During erection on board vessel (1914: Sep. 26, Oct. 20, Dec. 1, 15, 1915: Jan. 12, 22, Feb. 15, Apr. 12, May 15, 25, June 11, 13, 20, 21, July 3, Aug. 23, Sep. 4, 5, 6; Total No. of visits: 66; Is the approved plan of main boiler forwarded herewith: Yes

Dates of Examination of principal parts: Cylinders (20.9.15, 16.11.15), Slides (2.9.15), Covers (10.11.15), Pistons (10.11.15), Rods (19.11.15), Connecting rods (19.11.15), Crank shaft (2.10.15), Thrust shaft (19.11.15), Tunnel shafts (28.2.16, 20.9.15), Screw shaft (18.7.16), Propeller (18.7.16), Stern tube (18.7.16), Steam pipes tested (8.6.14), Engine and boiler seatings (1.8.14), Engines holding down bolts (8.12.16), Completion of pumping arrangements (6.9.14), Boilers fixed (26.9.16), Engines tried under steam (5.9.14), Completion of fitting sea connections (4.8.17), Stern tube (4.8.14), Screw shaft and propeller (4.8.14), Main boiler safety valves adjusted (4.9.14), Thickness of adjusting washers (P.A. 3/8, F 7/16, S.A. 13/32, F 13/32, For. A 13/32, F 7/16), Material of Crank shaft (Steel, Identification Mark on Do. 4563 J.C.), Material of Thrust shaft (Steel, Identification Mark on Do. 4563 J.C.), Material of Tunnel shafts (Steel, Identification Marks on Do. 4563 J.C.), Material of Screw shafts (Steel, Identification Marks on Do. 4563 J.C.), Material of Steam Pipes (S.D. Copper, Port - 5" dia x 4 1/2", St. - 5" x 4", For. - 5 1/2" x 3", Test pressure 360 lbs. per sq. inch), 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? (yes) If so, state name of vessel? (yes)

General Remarks (State quality of workmanship, opinions as to class, &c. The engines & boilers of this vessel have been constructed under special survey, and in accordance with the approved plans & the Society's Rules. The materials & workmanship are sound & good. The machinery has been examined under full working conditions & found satisfactory. It is eligible in my opinion to have record of S.L.M.C. 11.14.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 11.17.

John Shackirdy, Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ 3 : 0 : Special ... £ 39 : 15 : Donkey Boiler Fee ... £ : : Travelling Expenses (if any) £ : : When applied for, 19... When received, 4-12-1917

Committee's Minute TUE 4-DEC. 1917 Assigned + L.M.C. 11.14

Certificate (if required) to be sent to The Surveyors are requested not to write on or below the space for Committee's Minute.

MACHINERY CERTIFICATE WRITTEN

