

REPORT ON MACHINERY.

Received at London Office SAT - 2 JUN 1917

Date of writing Report 19 When handed in at Local Office 30-5-17 Port of Hull

No. in Survey held at Hull Date, First Survey 16. 11-16 Last Survey 21-5-1917

Reg. Book. on the *Spec. Sec. No. "John Appleby"* (Number of Visits 29) Gross Tons 306 Net Tons 121

Master Built at Beverley By whom built Cook, Wilton & Lummell When built 1917

Engines made at Hull By whom made Amos & Smith L^{td} No. 2833 when made 1917

Boilers made at Hull By whom made Amos & Smith L^{td} when made 1917

Registered Horse Power Owners British Admiralty Port belonging to ✓

Nom. Horse Power as per Section 28 89 ✓ Is Refrigerating Machinery fitted for cargo purposes ✓ Is Electric Light fitted *no* ✓

ENGINES, &c.—Description of Engines *Triple expansion* ✓ No. of Cylinders 3 ✓ No. of Cranks 3 ✓

Dia. of Cylinders *13 1/2 · 22 1/2 · 37* Length of Stroke 24" Revs. per minute Dia. of Screw shaft as per rule *7.49*" Material of screw shaft *Iron* as fitted *8*"

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 *3'0"* ✓

Dia. of Tunnel shaft as per rule *6.75*" Dia. of Crank shaft journals as per rule *7.08*" Dia. of Crank pin *7 1/2*" Size of Crank webs *4 1/4 · 14 1/4*" Dia. of thrust shaft under collars *7 1/2*" Dia. of screw *9'0"* Pitch of Screw *11'0"* No. of Blades 4 ✓ State whether moveable *no* Total surface *29.5 sq ft* ✓

No. of Feed pumps 1 ✓ Diameter of ditto *2 1/8*" Stroke 12" Can one be overhauled while the other is at work ✓ *by exts.*

No. of Bilge pumps 1 ✓ Diameter of ditto *3*" Stroke 12" Can one be overhauled while the other is at work ✓

No. of Donkey Engines 2 ✓ Sizes of Pumps *6 1/4 · 4 1/4 · 6 1/4 · 3 · 6*" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 2 — 2" suction In Holds, &c. 1-2" suction to fore-castle 1-2" to main fish room, 1-2" to main slush well, 1-2" to spare slush well ✓

No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump *Yes* ✓ Is a separate Donkey Suction fitted in Engine room & size *2" ejector* ✓

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 4 — 2" hold and slush well pipes 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* ✓

Is the Screw Shaft Tunnel watertight ✓ Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c.—(Letter for record *S.*) Manufacturers of Steel *Messrs John Spencer & Sons L^{td}*

Total Heating Surface of Boilers *1595 sq ft* Is Forced Draft fitted *no* No. and Description of Boilers *One single ended*

Working Pressure *185 lbs.* Tested by hydraulic pressure to *370 lbs.* Date of test *19. 4. 17* No. of Certificate *3206*

Can each boiler be worked separately ✓ Area of fire grate in each boiler *49.5 sq ft* No. and Description of Safety Valves to each boiler *2 Spring loaded* Area of each valve *5.94*" 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 *8*" Mean dia. of boilers *13.6*" Length *10.6*" Material of shell plates *S.*

Thickness *1 1/8*" Range of tensile strength *28/32* ✓ 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 3/16*" Pitch of rivets *8*" Lap of plates or width of butt straps *17 1/8*" ✓

Per centages of strength of longitudinal joint rivets *91.5* Working pressure of shell by rules *185* Size of manhole in shell *16 · 12*" ✓ plate *85.1*

Size of compensating ring *40 · 30 · 1 1/2*" No. and Description of Furnaces in each boiler *3 plain* Material *S.* Outside diameter *39 17/32*"

Length of plain part top *79 1/2*" bottom *74*" Thickness of plates crown *49*" bottom *64*" Description of longitudinal joint *welded* ✓ No. of strengthening rings ✓

Working pressure of furnace by the rules *191* Combustion chamber plates: Material *S.* Thickness: Sides *11/16*" Back *11/16*" Top *11/16*" Bottom *13/16*" ✓

Pitch of stays to ditto: Sides *9 1/2 · 7 1/2* Back *9 · 9 1/4* Top *10 · 8 1/2* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *189*

Material of stays *S.* Area at smallest part *2.066* Area supported by each stay *85*" Working pressure by rules *219* End plates in steam space: Material *S.* Thickness *1 1/2*" Pitch of stays *17 · 15*" How are stays secured *desecured nuts* Working pressure by rules *196* Material of stays *S.* ✓

Area at smallest part *6.10* Area supported by each stay *255*" Working pressure by rules *249* Material of Front plates at bottom *S.* ✓

Thickness *1*" Material of Lower back plate *S.* Thickness *15/16*" Greatest pitch of stays *14 1/4*" Working pressure of plate by rules *212*

Diameter of tubes *3 1/4*" Pitch of tubes *4 3/8 · 4 1/2*" Material of tube plates *S.* Thickness: Front *1*" Back *27/32*" Mean pitch of stays *9 3/4 · 9*" ✓

Pitch across wide water spaces *14 1/4*" Working pressures by rules *189* Girders to Chamber tops: Material *S.* Depth and thickness of girder at centre *9 1/2 · 1 3/4*" Length as per rule *2 · 10*" Distance apart *10*" Number and pitch of stays in each *3 — 8 1/2*" ✓

Working pressure by rules *204* Steam dome: description of joint to shell ✓ % of strength of joint ✓

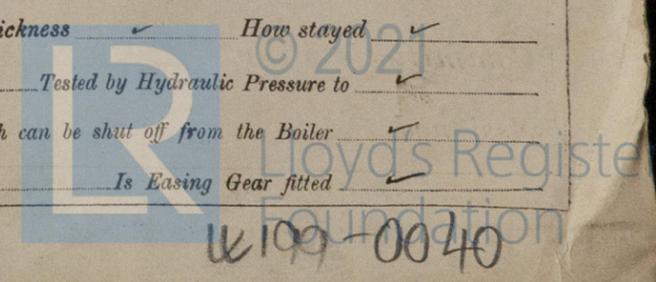
Diameter ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivet holes ✓

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 Valves ✓ Pressure to which each is adjusted ✓ Is Easing Gear fitted ✓



IS A DONKEY BOILER FITTED?

NO

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— Two each top and bottom end connecting rod bolts and nuts, two main bearing bolts and nuts, one set of coupling bolts and nuts, one set each feed and bilge pump valves, iron of various sizes, a quantity of assorted bolts and nuts etc.

The foregoing is a correct description,

FOR AMOS & SMITH LTD.

J. Wackerhury Manufacturer.

Dates of Survey while building: During progress of work in shops: 19.16.17, Nov 16. 23, Dec 11. 1917, Jan 8. 13. 23. 29, Feb. 2. 5. 10. 12. 16. 17. 27, Mar 5. 6. 15. 17. 20, During erection on board vessel: Apr 2. 16. 19. 26. 30, May 3. 8. 15. 19. 21, Total No. of visits: 29

Is the approved plan of main boiler forwarded herewith? Yes, please return "donkey" " " " "

Dates of Examination of principal parts: Cylinders 12.2.17, Slides 17.2.17, Covers 12.2.17, Pistons 17.2.17, Rods 5.3.17, Connecting rods 17.3.17, Crank shaft 27.2.17, Thrust shaft 6.3.17, Tunnel shafts, Screw shaft 23.11.16, Propeller 23.11.16, Stern tube 23.11.16, Steam pipes tested 3.5.17, Engine and boiler seatings 29.1.17, Engines holding down bolts 30.4.17, Completion of pumping arrangements 21.5.17, Boilers fixed 26.4.17, Engines tried under steam 19.5.17, Completion of fitting sea connections 29.1.17, Stern tube 29.1.17, Screw shaft and propeller 29.1.17, Main boiler safety valves adjusted 19.5.17, Thickness of adjusting washers P. 3/8, S. 5/16, 27.2.17 G.A., Material of Crank shaft Iron, Identification Mark on Do. 1709, Material of Thrust shaft Iron, Identification Mark on Do. 1710, Material of Tunnel shafts, Identification Marks on Do., Material of Screw shafts Iron, Identification Marks on Do. 1687, Material of Steam Pipes S.D. Copper, Test pressure 400 lbs.

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 "Lethon"

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 approved plans and the rules of this Society; the materials and workmanship are good; the boiler and steam pipes have been tested as above by hydraulic pressure and found sound and good. The machinery has been properly fitted and secured on board, and on completion tried under steam and found satisfactory. The safety valves have been adjusted under steam and tested for accumulation which did not exceed 190 lbs per sq. inch.

In my opinion the vessel is eligible for the record

❖ L.M.C. 5.17.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 5.17.

APPK

Geo. Allan Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ 1 : - : When applied for, Special ... £ 26 : 14 : 1/6 1917, Donkey Boiler Fee ... £ : : When received, Travelling Expenses (if any) £ : 3 : 2/6 1/7 22/6/17

Committee's Minute

TUE - 5 JUN. 1917

Assigned

+ L.M.C. 5.17

MACHINERY CERTIFICATE DATED



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Hull

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