

Received at London Office

10/7/41 14 AUG 1941

ENGINES, &c.—Description of Engines *Triple Expansion Vertical Surface Condensing*

Dia. of Cylinders *27" x 44" x 76"* Length of Stroke *51"* No. of Cylinders *3* Revs. per minute *85.5*

Crank shaft, dia. of journals *as per Rule 15.214* Crank pin dia. *16"* Crank webs *Mid. length breadth 14"* No. of Cranks *3* Thickness parallel to axis *9.56" 10.8"*

Intermediate Shafts, diameter *as per Rule 14.49* Thrust shaft, diameter at collars *as per Rule 15.214* Thickness around eye-hole *8.4"*

Tube Shafts, diameter *as per Rule 16.01* Screw Shaft, diameter *as per Rule 16.4* Is the *tube* shaft fitted with a continuous liner *Yes*

Bronze Liners, thickness in way of bushes *as per Rule 7.9* Thickness between bushes *as per Rule 5.9* Is the after end of the liner made watertight in the propeller boss *Yes*

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner *Yes*

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* Is an approved Oil Gland or other appliance fitted at the after end of the tub shaft *No* If so, state type *Oil Gland*

Propeller, dia. *18'-3"* Pitch *Varying* No. of Blades *4* Material *Brass* whether Moveable *No* Total Developed Surface *131.75* sq. feet

Feed Pumps worked from the Main Engines, No. *2* Diameter *5"* Stroke *27"* Can one be overhauled while the other is at work *Yes*

Bilge Pumps worked from the Main Engines, No. *2* Diameter *5"* Stroke *27"* Can one be overhauled while the other is at work *Yes*

Feed Pumps { No. and size *2-12"x9"x24"; 1-9"x6"x10"* Pumps connected to the { No. and size *2-5"x27"* 5" Connection Ballast Pump
How driven *Steam* Main Bilge Line How driven *Main Engine* *Steam*

Ballast Pumps, No. and size *1-10"x12"x12"* Lubricating Oil Pumps, including Spare Pump, No. and size *1-10"x12"x12"*

Are two independent means arranged for circulating water through the Oil Cooler *Yes* Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room *3.5" Aft well 3.5" E.R. (H) 3.5" E.R. (S) 2.5" Cap. (H) 3.5" B.R. (H) 3.5" B.R. (S)*

In Pump Room *Forward 1-2" Main P.R. (F) 1-3" P. in Hold, etc. 1-3" (S) Forward 1-2" (P) 1-2" (S) Main P.R. (Aft) 1-3" (P) 1-3" (S)*

Main Water Circulating Pump Direct Bilge Suctions, No. and size *1-10" (H)* Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size *1-5" (S)*

Are all the Bilge Suction Pipes in hold and tunnel well fitted with strum-boxes *Med box valve steel pipe*

Are the Bilge Suctions in the Machinery Space led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges *Yes*

Are all Sea Connections fitted direct on the skin of the ship *Yes* Are they fitted with 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 Overboard Discharges above or below the deep water line *Below*

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 pass through the bunkers *None* How are they protected *None*

What pipes pass through the deep tanks *None* Have they been tested as per Rule *Yes*

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times *Yes*

Is the arrangement of Valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one compartment to another *Yes* Is the Shaft Tunnel watertight *None* Is it fitted with a watertight door *Yes* worked from *Yes*

MAIN BOILERS, &c.—(Letter for record *S*) Total Heating Surface of Boilers *10020 sq*
 Which Boilers are fitted with Forced Draft *all* Which Boilers are fitted with Superheaters *all*
 No. and Description of Boilers *3 S.E. Mullett tubular* Working Pressure *220 18/04*
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? *Yes*
 IS A DONKEY BOILER FITTED? *No* If so, is a report now forwarded? *-*
 Can the donkey boiler be used for domestic purposes only *-*
 PLANS. Are approved plans forwarded herewith for Shafting *21/140 30/10/39* Main Boilers *16/10/39* Auxiliary Boilers *✓* Donkey Boilers *✓*
 (If not state date of approval)
 Superheaters *✓* General Pumping Arrangements *12/3/40* Oil fuel Burning Piping Arrangements *8/10/40*
 SPARE GEAR.
 Has the spare gear required by the Rules been supplied *yes*
 State the principal additional spare gear supplied *-*

The foregoing is a correct description.

Manufacturer.

002830 - 002831 - 0086

During progress of work in shops - - 1940 - June 10, Aug. 29, 30, Sept. 11, 16, Oct. 2, 10, 14, 23, 24, 25, 28, 29, Nov. 4, 6, 11, 12, 13, 19, 15, 27, Dec. 1, 2, 3, 4, 10, 12, 17, 18, 20, 23, 24, 30, 31. 1941, Jan. 2, 3, 4, 7, 8, 13, 14, 15, 21, 29, Feb. 4, 7, 12, 13, 14, 19, 24, 26, 28, March 6, 11, 13, 18, 25, 27, April 1, 3, 4, 7, 8, 9, 10, 11, 16, 18, 21, 22, 23, 24, 25, 28, 30, May 12, 6, 7, 8, 10, 11, 13, 15, 16, 20, 21, 22, 24, 27, 28, 30, June 3, 4, 6, 9, 10, 12, 13, 16, 17, 20, 25, 26, 19, 20, 21, 27, 30, July 1, 2, 3, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Aug. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Sept. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Oct. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Nov. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Dec. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31.

During erection on board vessel - - Middleborough. May 12, June 10, 16, 24, July 1, 4, 9, 11, 13, 20, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Aug. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Sept. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Oct. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Nov. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Dec. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31.

Total No. of visits 115.

Dates of Examination of principal parts—Cylinders		2/12/40 27/11/40	Slides	30/12/40	Covers	10/12/40	
Pistons	4/2/40	Piston Rods	8/1/41	Connecting rods	31/12/40		
Crank shaft	13/11/40	Thrust shaft	4/12/40	Intermediate shafts	22/5/41		
Tube shaft	✓	Screw shaft	22/5/41	Propeller	26/5/41		
Stern tube	22/5/41	Engine and boiler seatings	14/5/41	Engines holding down bolts	27/6/41		
Completion of fitting sea connections	23/5/41						
Completion of pumping arrangements	17/7/41	Boilers fixed	11/7/41	Engines tried under steam	17/7/41		
Main boiler safety valves adjusted	11/7/41	Thickness of adjusting washers	PORT 3/8" STAR. 3/8" PORT 3/16" STAR. 3/16" 7/32" F3				
Crank shaft material	steel	Identification Mark	9055 H.A.I.	Thrust shaft material	steel	Identification Mark	9264 H.A.
Intermediate shafts, material	steel	Identification Marks	9264 H.A.I.	Tube shaft, material	✓	Identification Mark	✓
Screw shaft, material	steel	Identification Mark	4815 A.E.C.	Steam Pipes, material	S.D. steel	Test pressure	660
						Date of Test	8.2.41
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 the Rules for the use of oil as fuel been complied with	yes						
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo	oil tanker			If so, have the requirements of the Rules been complied with	not required		
If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with							
Is this machinery duplicate of a previous case	yes			If so, state name of vessel	R.W. 2402		
General Remarks (State quality of workmanship, opinions as to class, &c.)							

The engines + boilers of the vessel have been constructed under special survey + in accordance with the approved plans. The workmanship + materials have been found good. The machinery has been forwarded to Harston Hill to be fitted on board by Messrs. Furness Shipbuilding Co. at their yard No 329. In my opinion, the vessel will be eligible to have record of + LMC - with date on completion. The machinery fitted on board in accordance with the approved plans, & Rule Requirements, tried under steam, & found working satisfactorily, & in my opinion is eligible for record of + LMC 7/41, & notated of TS (CL) 7/41, Forced Draught + Superheater. The ship's side inlet + discharge valves, re-improved in accordance with Admiralty Notice MS 2385/40 and MS 3199/40.

The amount of Entry Fee ...	£	6	:	0	:	When applied for,
Special ^{4/12} 1/12 ...	£	86	:	19	:	30/6/41
Donkey Boiler Fee ...	£	21	:	15	:	73.8.41
Travelling Expenses (if any) £	:	:	:	:	:	When received, 19.

Clive Bell & R. J. Fastley
Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute

Assigned

TUE. 19 AUG 1941

+ Lumb 7.41
Fitted forail pulve
J.D. Ch.

Lloyd's Register
Foundation