

REPORT ON MACHINERY.

No. 274

Received at London Office

2 MAY 1917

Date of writing Report 12/4/1917 When handed in at Local Office 1/7/1917 Port of Sheffield
No. in Survey held at Halifax - Yorks. Date, First Survey 5/1/17 Last Survey 5/4/1917
Reg. Book. on the Admiralty Tender - "Mersey" Class "Charles Astor" Number of Volls 3 31/5/17 Hull
Master Built at Selby By whom built Lochane & Co. H. 864 Tons Net
Engines made at Halifax By whom made The Campbell & Co. Eng. Co. Ltd. when made 1917-45
Boilers made at Hull By whom made E. D. Holmes H. 2 L. (H. 1137) when made 1917-5
Registered Horse Power 600 Owners British Admiralty Port belonging to
Nom. Horse Power as per Section 28 87 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 13" 23" 37" Length of Stroke 26 Revs. per minute 116 Dia. of Screw shaft as per rule 7.9 Material of screw shaft Iron
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 in 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 no 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 7.04 Dia. of Crank shaft journals as per rule 7.39 Dia. of Crank pin 7.5 Size of Crank webs 11 x 4 1/2 Dia. of thrust shaft under collars 7 1/2 Dia. of screw 9 7/2 Pitch of Screw 11' 0 No. of Blades 4 State whether moveable no Total surface 33 1/2
No. of Feed pumps no Diameter of ditto 2 5/8 Stroke 4 3/4 Can one be overhauled while the other is at work
No. of Bilge pumps no Diameter of ditto 2 5/8 Stroke 4 3/4 Can one be overhauled while the other is at work
No. of Donkey Engines no 4 3/4 Sizes of Pumps 6" x 4 1/2" x 6" duplex No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room Two 2" dia. In Holds, &c. one 2" dia. in each compartment
all suction also connected to 3" water
No. of Bilge Injections no sizes 3 1/2 Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size 3" water
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 no
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 Forward suction How are they protected strong wooden 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 yes Is it fitted with a watertight door yes worked from yes

BOILERS, &c.—(Letter for record S) Manufacturers of Steel

Total Heating Surface of Boilers 1440 Is Forced Draft fitted no No. and Description of Boilers one single ended
Working Pressure 200 lb. Tested by hydraulic pressure to Date of test No. of Certificate
Can each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to each boiler
Area of each valve Pressure to which they are adjusted Are they fitted with easing gear
Smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers Length Material of shell plates
Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. 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 rivets 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 top Thickness of plates crown Description of longitudinal joint No. of strengthening rings
bottom 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 Area 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
Area 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 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

W736-0049

IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded? ✓

SPARE GEAR.

State the articles supplied:-

Two top end bolts & nuts, two bottom end bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set of air feed valve pump valves, one main & one donkey check valve, two valves for donkey pump, six pump ring studs & nuts, 3 condenser tubes, one safety valve spring, one set of fire bars & a quantity of bolts & nuts & iron of various sizes.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 15/1 - 19/1 - 26/1 - 2/2 - 9/2 - 12/2 - 15/2 - 16/2 - 23/2 - 2/3 - 15/3 - 28/3 - 5/4/17
During erection on board vessel - - -
Total No. of visits

Is the approved plan of main boiler forwarded herewith Forwarded
" " " donkey " Forwarded
" " " " Forwarded

Dates of Examination of principal parts—Cylinders 26/1 5/4/17 Slides 26/1 5/4/17 Covers 26/1 5/4/17 Pistons 26/1 5/4/17 Rods 26/1 5/4/17
Connecting rods 26/1 5/4/17 Crank shaft 26/1 5/4/17 Thrust shaft 26/1 5/4/17 Tunnel shafts - Screw shaft 15/1 - 19/1/17 Propeller 15/1 - 19/1/17
Stern tube 15/1 - 19/1/17 Steam pipes tested 16-5-17 Engine and boiler seatings 23-1-17 Engines holding down bolts 4-5-17
Completion of pumping arrangements 25-5-17 Boilers fixed 21-5-17 Engines tried under steam 25-5-17
Completion of fitting sea connections 23-1-17 Stern tube 23-1-17 Screw shaft and propeller 23-1-17
Main boiler safety valves adjusted 23-5-17 Thickness of adjusting washers 7 1/8 2 3/8

Material of Crank shaft Iron Identification Mark on Do. 673 Material of Thrust shaft Iron Identification Mark on Do. 674

Material of Tunnel shafts - Identification Marks on Do. - Material of Screw shafts Iron Identification Marks on Do. 623 R.F.M.

Material of Steam Pipes solid drawn copper Test pressure 40 lbs

Is an installation fitted for burning oil fuel no Is the flash point of the oil to be used over 150°F. ✓

Have the requirements of Section 49 of the Rules been complied with ✓

Is this machinery duplicate of a previous case yes If so, state name of vessel "Mersy" Class

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery has been

built under Special Survey and in accordance with the Specification and the Society's Rules, materials and workmanship are found and good.

The engines have been forwarded to Hull for fitting on board the vessel.

The machinery of this vessel has been properly fitted & secured on board the vessel, the steam pipe tested as above, & on completion the machinery was tested under full power for two hours as required by the Admiralty & found satisfactory. The safety valves have been adjusted under steam & tested for accumulation which did not exceed 210 lbs.

In our opinion the vessel is eligible for the record to 16-5-17

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 5.17.

The amount of Entry Fee £ 14 : 8 : 0
Special £ 2 : 3 : 8
Donkey Boiler Fee £ 3 : 6 : 10
Travelling Expenses (if any) £ 8 : 6 : 7
When applied for, 19
When received, 19

Committee's Minute

Assigned

+ L.M.C. 5.17

MACHINERY CERTIFICATE
WRITTEN



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Foundation

Fees marked at 10/30 - 18/8/17