

REPORT ON MACHINERY.

No. 29850

Received at London Office

FRI. 16 MAR. 1917

Date of writing Report 6-3-17 19 When handed in at Local Office 13-3-17 19 Port of Hull
No. in Survey held at Hull Date, First Survey 1-4-15 Last Survey 12-3-17 19
Reg. Book. on the steel s.s. Elmleaf in Olivet (Number of Vols. 179)
Master Gething Built at Hull By whom built Carlis & Co Ltd Tons { Gross 5945
Engines made at Hull By whom made Carlis & Co Ltd when made 1917-3
Boilers made at Hull By whom made Carlis & Co Ltd when made 1917-3
Registered Horse Power Owners British Admiralty Port belonging to London
Nom. Horse Power as per Section 28 565 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders Three No. of Cranks 3
Dia. of Cylinders 24 3/4" 42 1/2" 74" Length of Stroke 51" Revs. per minute 81.2 Dia. of Screw shaft as per rule 15.45" 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 67"
Dia. of Tunnel shaft as per rule 13.96" Dia. of Crank shaft journals as per rule 14.66" Dia. of Crank pin 15" Size of Crank webs 9 1/2" x 22 1/2" Dia. of thrust shaft under
collars 14 1/8" Dia. of screw 18-6" Pitch of Screw 17-9" No. of Blades 4 State whether moveable yes Total surface 114 1/4 ft²
No. of Feed pumps 2 twin Diameter of ditto 8" Stroke 21" Can one be overhauled while the other is at work yes
No. of Bilge pumps two Diameter of ditto 4 1/2" Stroke 27" Can one be overhauled while the other is at work yes
No. of Donkey Engines Three dup Sizes of Pumps 7.5" x 12", 10" x 10", 10.6" x 10" No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room Four 3 1/2" dia. Two 3" in Fly Tank Tunnel one 2" to ejector An Holds, &c. Oil Tank Steamers. 1" hold two 3" connected to Ford Ballast Pump
No. of Bilge Injections one sizes 8" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & 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 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 one 10" oil main to tanks 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 no worked from access to tunnel from deck thru
trunks

BOILERS, &c.—(Letter for record S) Manufacturers of Steel D. Colville & Sons. 2SB & 1 Aux SB. 2SB & 1 Aux SB
Total Heating Surface of Boilers 7860 ft² Is Forced Draft fitted yes No. and Description of Boilers Two single ended four Auxiliary
Working Pressure 220 lbs. Tested by hydraulic pressure to 440 lbs. Date of test 28-9-16 No. of Certificate 3163
Can each boiler be worked separately yes Area of fire grate in each boiler 16.75 ft² No. and Description of Safety Valves to
each boiler two spring loaded Area of each valve 8.29" Pressure to which they are adjusted 225 lbs. Are they fitted with easing gear yes
Smallest distance between boilers or uptakes and bunkers or woodwork 4'-0" lagged with 15" 7/16" dia. of boilers 18 7/8" Length 12'-6" Material of shell plates steel
Thickness 1 1/32" Range of tensile strength 30-34 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams double
long. seams Y.R.B.B. Diameter of rivet holes in long. seams 1 7/16" Pitch of rivets 10" Lap of plates or width of butt straps 2 1/4"
Per centages of strength of longitudinal joint rivets 85.6 Working pressure of shell by rules 222 Size of manhole in shell 16" x 12"
Size of compensating ring 9" x 1 1/32" No. and Description of Furnaces in each boiler four Brighton Material steel Outside diameter 48 1/2"
Length of plain part top Thickness of plates crown 2 1/32" Description of longitudinal joint welded No. of strengthening rings
bottom Thickness of plates bottom 2 1/32" Working pressure of furnace by the rules 246 Combustion chamber plates: Material steel Thickness: Sides 2 9/32" Back 1 1/16" Top 1 1/16" Bottom 2 9/32"
Pitch of stays to ditto: Sides 9 1/4" x 9" Back 9" x 8" Top 9" x 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 226
Material of stays steel Area at smallest part 2.07" Area supported by each stay 83.25 Working pressure by rules 224 End plates in steam space:
Material steel Thickness 1 9/32" Pitch of stays 18" x 14 1/2" How are stays secured S. H. Working pressure by rules 224 Material of stays steel
Area at smallest part 6.1" Area supported by each stay 261" Working pressure by rules 243 Material of Front plates at bottom steel
Thickness 1 1/32" Material of Lower back plate steel Thickness 3 1/32" Greatest pitch of stays 14 1/2" x 8 3/4" Working pressure of plate by rules 231
Diameter of tubes 2 1/2" Pitch of tubes 3 1/2" x 16" Material of tube plates steel Thickness: Front 1 1/32" Back 7/8" Mean pitch of stays 7 7/8"
Pitch across wide water spaces 13 1/2" Working pressures by rules 224 Girders to Chamber tops: Material steel Depth and
thickness of girder at centre 10 3/4" x 1 3/4" Length as per rule 36 7/16" Distance apart 9" Number and pitch of stays in each three 8"
Working pressure by rules 230 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 2020
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

If so, is a report now forwarded? ✓

The foregoing is a correct description,

SHIPBUILDING & ENGINEERING CO. LIMITED

Manufacturer.

1915:- April to Dec 10 = 39. 1916:- Jan 14 to Dec 29 = 105
1917:- Jan 2 to 12 = 35
179

Is the approved plan of main boiler forwarded herewith

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“ “ “ *donkey* “ “ ”

Connecting rods 5-6-16 Crank shaft 12-4-16 Thrust shaft 4-9-16 Tunnel shafts 12-12-16 Screw shaft 6-11-16 Propeller 6-11-16

Stern tube 7-11-16 Steam pipes tested 8-12-17 Engine and boiler seatings 8-12-16 Engines holding down bolts 12-1-17

Completion of pumping arrangements 4-3-17 Boilers fixed 17-1-17 Engines tried under steam 26-2-17

Completion of fitting sea connections 27-11-16 Stern tube 19-11-16 Screw shaft and propeller 21-2-17

Main boiler safety valves adjusted P-2-17 Thickness of adjusting washers Roll P 1/32 1 3/4 6 1/2 P 1/32 S 1/16 2 1/2 P 1/32 1 3/4

Material of Crank shaft Steel Identification Mark on Do. 5691AB Material of Thrust shaft Steel Identification Mark on Do. 614 28.526

Material of Tunnel shafts steel Identification Marks on Do. 5142 ¹⁸¹²⁶⁻⁷⁻¹⁶ Material of Screw shafts steel Identification Marks on Do. 579PAE

Material of Steam Pipes solid drawn steel ✓ Test pressure 600 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 no If so, state name of vessel ✓

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 & the rules of this Society, the materials & workmanship are good. The Boiler & steam pipes have been tested as above & found sound & tight. The Machinery has been properly fitted & secured on board the vessel & on completion tried under full working conditions & found satisfactory. The safety valves have been adjusted under steam & tested for accumulation which did not exceed 234 lbs. All pipes in connection with the oil fuel have been tested after fitting in place (delivery 30 lbs & suction 100 lbs) & found tight.

In my opinion the vessel is eligible for the record + L.M.C. 3.17 FD Fitted for burning oil fuel.

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

Fitted for oil fuel 3.17. F.P. above 150°F .

The amount of Entry Fee	...	£ 3	:	0	:	When applied for,
Special	...	£ 48	:	5	:	15-3-1917
Donkey Boiler Fee	...	£	:		:	When received,
Travelling Expenses (if any)	£	:	:		:	96.4 1917

Committee's Minute

Assigned

Q. + L.M.C. 3.17 F.D.
 Tipped for Oil Fuel 3.17 F. Above 150° F

MACHINERY CERTIFICATE
WRITTEN.

Lloyd's Register
Foundation