

REPORT ON MACHINERY

No. 30 288

Date of writing Report 4-12-17 When handed in at Local Office 10/12/17 Port of Hull Received at London Office TUE DEC 11 1917

No. in Survey held at Hull Date, First Survey 2/8/17 Last Survey 8-12-17 19
 Reg. Book. on the steel screw tug "John Cornack" (Number of Visits 35)

Master Lilly Built at Lilly By whom built Brookman & Sons Ltd Tons Gross 324 Net 133
 Engines made at Hull By whom made Chas. J. Holmes & Co Ltd (A2) When built 1917-12
 Boilers made at Hull By whom made " " " (A16) when made 1917-12
 Registered Horse Power 27 Owners British Admiralty Port belonging to " "
 Nom. Horse Power as per Section 28 27 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders Three No. of Cranks 3
 Dia. of Cylinders 13"-23"-37" Length of Stroke 26" Revs. per minute 117 Dia. of Screw shaft as per rule 7.9" Material of 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 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 Length of stern bush 35 1/2"
 Dia. of Tunnel shaft as per rule 7.04" Dia. of Crank shaft journals as per rule 7.39" Dia. of Crank pin 7 1/2" Size of Crank web 4 1/2" x 11" Dia. of thrust shaft under
 collars 7 1/2" Dia. of screw 9-7 1/2" Pitch of Screw 11-0" No. of Blades 4 State whether moveable no Total surface 33 sq. ft.
 No. of Feed pumps one Diameter of ditto 2 3/8" Stroke 14 3/4" Can one be overhauled while the other is at work yes
 No. of Bilge pumps one Diameter of ditto 2 3/8" Stroke 14 3/4" Can one be overhauled while the other is at work yes
 No. of Donkey Engines one Sizes of Pumps 6", 4 1/2" x 6" 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 ejector
 No. of Bilge Injections one sizes 3 1/2" Connected to condenser, or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size 3" 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 Forward suction How are they protected strong 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
 Dates of examination of completion of fitting of Sea Connections 28-8-17 of Stern Tube 28-8-17 Screw shaft and Propeller 28-8-17
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from " "

BOILERS, &c.—(Letter for record B) Manufacturers of Steel Thurston, Hoggan & J. Spencer Sons
 Total Heating Surface of Boilers 1440 sq. ft. Is Forced Draft fitted no No. and Description of Boilers one single ended
 Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 19-11-17 No. of Certificate 3253
 Can each boiler be worked separately yes Area of fire grate in each boiler 48 sq. ft. No. and Description of Safety Valves to
 each boiler two spring loaded Area of each valve 4.94 in. Pressure to which they are adjusted 205 lbs. Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers 8" Blagden Mean dia. of boilers 65" Length 10-8" Material of shell plates steel
 Thickness 1 1/16" Range of tensile strength 28-32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams double
 long. seams T.P.B. Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 8 3/8" Lap of plates or width of butt straps 18"
 Per centages of strength of longitudinal joint rivets 85.9 Working pressure of shell by rules 202 Size of manhole in shell 16" x 12"
 Size of compensating ring 7" x 1 1/16" No. and Description of Furnaces in each boiler Three plain Material steel Outside diameter 40"
 Length of plain part 78 1/2" Thickness of plates 7 1/16" Description of longitudinal joint welded No. of strengthening rings yes
 Working pressure of furnace by the rules 206 Combustion chamber plates: Material steel Thickness: Sides 3/4" Back 2 3/32" Top 3/4" Bottom 3/4"
 Pitch of stays to ditto: Sides 10" x 8" Back 9 3/4" x 8 3/4" Top 11" x 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 208
 Material of stays steel Diameter at smallest part 2.07" Area supported by each stay 88" Working pressure by rules 211 End plates in steam space:
 Material steel Thickness 1 1/32" Pitch of stays 19" x 17 3/8" How are stays secured 2 1/2" x 6" Working pressure by rules 210 Material of stays steel
 Diameter at smallest part 7.5" Area supported by each stay 335" Working pressure by rules 233 Material of Front plates at bottom steel
 Thickness 1 1/16" Material of Lower back plate steel Thickness 1 1/16" Greatest pitch of stays 3 3/4" x 9 9/16" Working pressure of plate by rules 216
 Diameter of tubes 3 1/2" Pitch of tubes 4 7/8" Material of tube plates steel Thickness: Front 1 1/16" Back 7/8" Mean pitch of stays 10"
 Pitch across wide water spaces 14" Working pressures by rules 276 lbs Girders to Chamber tops: Material steel Depth and
 thickness of girder at centre 11" x 1 3/4" length as per rule 36.218 Distance apart 11" Number and pitch of stays in each Three 8"
 Working pressure by rules 201 Superheater or Steam chest; how connected to boiler yes Can the superheater be shut off and the boiler worked
 separately yes Diameter " Length " Thickness of shell plates " Material " Description of longitudinal joint " Diam. of rivet
 holes " Pitch of rivets " Working pressure of shell by rules " Diameter of flue " Material of flue plates " Thickness "
 If stiffened with rings yes Distance between rings " Working pressure by rules " End plates: Thickness " How stayed "
 Working pressure of end plates " Area of safety valves to superheater " Are they fitted with easing gear yes

L700-429500-819500

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 & belt pump valves, one main & one donkey chest valve, two valves for donkey pump, six junk ring studs & nuts, one safety valve spring, 3 condenser tubes, one set of fire bars & a quantity of bolts & nuts & nuts of various sizes.*

The foregoing is a correct description,

For CHARLES D. HOLMES & CO. LTD.

Manufacturer.

Dates of Survey while building { During progress of work in shops - - } *1917: Aug 2, 24, 28, 29, Sept 4, 6, 12, 19, 21, 25, 26, 28, Oct 3, 9, 12, 16, 19, 25, 30, Nov 1, 7, 8, 9, 13, 19, 20*
{ During erection on board vessel - - - } *22, 24, 26, 28, 29, 30, Dec 4, 7, 8*
Total No. of visits *35.*

Is the approved plan of main boiler forwarded herewith *duplicate already forwarded*
" " " donkey " " "

Dates of Examination of principal parts - Cylinders *6-9-17* Slides *28-9-17* Covers *26-9-17* Pistons *26-9-17* Rods *26-9-17*
Connecting rods *21-9-17* Crank shaft *21-9-17* Thrust shaft *3-10-17* Tunnel shafts Screw shaft *24-8-17* Propeller *24-8-17*
Stern tube *24-8-17* Steam pipes tested *26-11-17* Engine and boiler seatings *28-8-17* Engines holding down bolts *20-11-17*
Completion of pumping arrangements *30-11-17* Boilers fixed *26-11-17* Engines tried under steam *30-11-17*
Main boiler safety valves adjusted *28-11-17* Thickness of adjusting washers *7/8 & 3/8*

Material of Crank shaft *Iron* Identification Mark on Do. *2027 FLS* Material of Thrust shaft *Iron* Identification Mark on Do. *2034 FLS*
Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts *Iron* Identification Marks on Do. *1791 FLS*
Material of Steam Pipes *solid drawn copper* Test pressure *40 lbs.*

Is an installation fitted for burning oil fuel 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 *Mersey Bloss.*

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 & on completion was tried under full power as required by the Admiralty & found satisfactory. The safety valves have been adjusted under steam & tested for accumulation which did not exceed 216 lbs.*

In my opinion the vessel is eligible for the record + L.M.C. 12-17

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 12.17.

J.W.D.
12/12/17

The amount of Entry Fee ... £ : :
Special ... £ *27: 0* When applied for, *10-12-1917*
Donkey Boiler Fee ... £ : : : When received, *31-12-1917*
Travelling Expenses (if any) £ : *12/8*

Frank A. Stanger
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *FRI. DEC. 14 1917.*

Assigned *+ L.M.C. 12.17*



Certificates (if required) to be sent to

The Surveys are required not to write on or below the space for Committee's Minute.

MACHINERY CERTIFICATE WRITTEN