

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THE MARGIN.

Hull Report No. 30638

Rpt. 4.

REPORT ON MACHINERY

No. 286

Received at London Office

Date of writing Report 10/11 1918 When handed in at Local Office 10/11 1918 Port of Sheffield & Hull
No. in Survey held at Halifax & Goole Date, First Survey 24/5/17 Last Survey 10/12/17
Reg. Book. Mersey Hawler "Edward Bruce" (Number of Visits) Gross 324
Master ✓ Built at Goole By whom built Goole Shipbuilding Co. Ltd. Tons Net 149 When built 1918
Engines made at Halifax By whom made The Campbell & Co. Engine Co. Ltd. when made 1918
Boilers made at Hull By whom made Messrs C. D. Holmes & Co. Ltd. when made 1918
Registered Horse Power 800 Owners British Admiralty Port belonging to ✓
Nom. Horse Power as per Section 28 87 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 3'-23" 84" Length of Stroke 26" Revs. per minute 7.9 Dia. of Screw shaft 7.9 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 and the joints banded — 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 7.04 Dia. of Crank shaft journals 7.39 Dia. of Crank pin 7.5 Size of Crank webs 45x45 Dia. of thrust shaft under collars 7.5 Dia. of screw 9.7 1/2 Pitch of Screw 11'0" No. of Blades 4 State whether moveable no Total surface 336
No. of Feed pumps no Diameter of ditto 2 5/8 Stroke 14 1/2 Can one be overhauled while the other is at work —
No. of Bilge pumps no Diameter of ditto 2 5/8 Stroke 14 1/2 Can one be overhauled while the other is at work —
No. of Donkey Engines 1 EJECTOR Sizes of Pumps 6x4 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. Three 2" DIA.
all suction also connected to EJECTOR
No. of Bilge Injections 1 sizes 3 1/2 Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size 1 1/2 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 Forward Suctions How are they protected wooden casings
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) Manufacturers of Steel
Total Heating Surface of Boilers Is Forced Draft fitted No. and Description of Boilers
Working Pressure 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 plate
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

Lloyd's Register Foundation

W309-0151

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR.

State the articles supplied:—

Two top end & two bot end bolts & nuts
two main bearing bolts & nuts. 1 set of coupling bolts & nuts
one set of air, feed & bilge pump valves. one set of junk ring studs
nuts. one main & one donkey check valve. two valves for donkey pump
one safety valve spring, 3 condenser tubes. a set of finebars.
a quantity of bolts & nuts & iron of various sizes

The foregoing is a correct description,

D.D. The Campbell Gas Engine Co. Ltd.

Manufacturer.

Dates of Survey while building { During progress of work in shops - - }
{ During erection on board vessel - - - }
Total No. of visits

30-7-18 7-8-18 7-9-18 14-9-18 26-9-18 17-10-18 24-10-18 5-11-18 13-11-18 23-11-18 10-12-18

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 30/7-18 10/12/18 Slides 30/7-18 10/12/18 Covers 30/7-18 10/12/18 Pistons 30/7-18 10/12/18 Rods 7/8-18 19/12/18

Connecting rods 7/8-18 19/12/18 Crank shaft 7/8-18 19/12/18 Thrust shaft 7/8-18 19/12/18 Tunnel shafts - Screw shaft 7/8-18 19/12/18 Propeller 6-3-18

Stern tube 6-3-18 Steam pipes tested 24-6-18 Engine and boiler seatings 6-3-18 Engines holding down bolts 21-6-18

Completion of pumping arrangements 27-7-18 Boilers fixed 10-7-18 Engines tried under steam 12-7-18

Completion of fitting sea connections 6-3-18 Stern tube 6-3-18 Screw shaft and propeller 6-3-18

Main boiler safety valves adjusted 12-7-18 Thickness of adjusting washers 3/8 F. 5/16 F.

Material of Crank shaft Steel Identification Mark on Do. 11:774 Material of Thrust shaft Steel Identification Mark on Do. 11:774

Material of Tunnel shafts - Identification Marks on Do. - Material of Screw shafts Steel Identification Marks on Do. 11:774

Material of Steam Pipes S.O. Copper 4" DIA. No. 7. I.W.G. Test pressure 400 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 "Mersey 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, material and workman are sound and good.

This engine - N: 9703 - has been forwarded to Goole Shipbuilding & Co. to be fitted on board the vessel - The screw shaft and stern tube intended for this vessel has not been forwarded as these are in the vessel supplied by Messrs W. Beardmore & Co. The machinery of this vessel has been properly fitted and secured on board at Goole, the steam pipe tested as above & on completion the machinery was tested under full power as required by the Admiralty and found satisfactory, the safety valves have been tested for accumulation.

In my opinion the vessel is eligible for the record of + LMC 7-18

The amount of Entry Fee

Special Inspecting Machinery Fee £ 14-0-0 When applied for, June 15 1918

Donkey Boiler Fee £ 4-0-0 When received, July 6 1918

Travelling Expenses (if any) £ 3-12-3

Committee's Minute TUE FEB 28 1922

Assigned

TUE FEB 28 1922

CERTIFICATE WRITTEN.

P. L. Norton & W. H. Roberts

Engineer Surveyor to Lloyd's Register of Shipping.

It is submitted that this machinery having been fitted on an unclassified vessel, further action is unnecessary.

TUE MAR 6 1922