

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 2/5/17 Last Survey 10/12/17 1917
 Reg. Book. Mersey Hawley "Edward Bruce" (Number of Visits) Gross 324
 Master Goole Built at Goole By whom built Goole Shipbuilding Co. Ltd. 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 Simp. Expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 13" 23" 8 1/2" Length of Stroke 26" Revs. per minute ✓ Dia. of Screw shaft as per rule 7.9 Material of screw shaft steel
 as fitted 9.25
 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 burred — If the tenon 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 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 4 1/2 x 4 1/2 Dia. of thrust shaft under collars 7.5 Dia. of screw 9 1/2 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 1/2 Stroke 14 1/2 Can one be overhauled while the other is at work —
 No. of Bilge pumps no Diameter of ditto 2 1/2 Stroke 14 1/2 Can one be overhauled while the other is at work —
 No. of Donkey Engines 1 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. 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
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	Working pressure of shell by rules	Size of manhole in shell
rivets		
plate		
Size of compensating ring	No. and Description of Furnaces in each boiler	Material
Outside diameter		
Length of plain part	Thickness of plates	Description of longitudinal joint
top	aroun	
bottom	bottom	No. of strengthening rings
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

UPERHEATER. 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 —

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THE MARGIN.



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 six, 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.

Marsden

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 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 - 1-12-18 } During erection on board vessel - - - Total No. of visits

Is the approved plan of main boiler forwarded herewith

donkey

Dates of Examination of principal parts - Cylinders 30/7-5 10/12/18 Slides 30/7-6 10/12/18 Covers 30/7-6 10/12/18 Pistons 30/7-6 10/12/18 Rods 7/8-6 10/12/18 Connecting rods 7/8-6 10/12/18 Crank shaft 7/8-6 10/12/18 Thrust shaft 7/8-6 10/12/18 Tunnel shafts - Screw shaft 7/8-6 10/12/18 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. N: 774 Material of Thrust shaft Steel Identification Mark on Do. N: 774

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

Material of Steam Pipes S.O. Copper 4" DIA. No. 7, I.W.G. Test pressure 400 lbs sq"

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 £ 14-0-0 When applied for, June 15 1918 Special machinery fee £ 7-6-0 Donkey Boiler Fee £ Travelling Expenses (if any) £ 3-12-3 When received, July 6 1918

R. F. Norton & W. Roberts Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE FEB 28 1922

Assigned

+ LMB 7.18. C.L vessel, further action is unnecessary. Lloyd's Register Foundation

TUE FEB 28 1922

CERTIFICATE WRITTEN.

TUE MAR 9 1922

Certificate (if required) to be sent to The Surveyors are requested not to write on or below the space for Committee's Minute.