

# REPORT ON MACHINERY

No. 2574

12 JUL 1917

Received at London Office

THU. AUG. - 24 1917

Date of writing Report 5-7-1917 When handed in at Local Office 5-7-1917 Port of Sheffield

No. in Survey held at Halifax - Yorks Date, First Survey 26-1-17 Last Survey 29-7-1917

Reg. Book. on the Admiralty Trawler "Mersey" Class "John Pascoe" (Number of Visits 17 - 20-2-17 - 17 April)

Master Selby Built at Selby By whom built Cochrane 1897 Tons Not When built 1917-7

Engines made at Halifax By whom made The Campbell Eng. Co. Ltd. 2496 When made 1917-7

Boilers made at Hull By whom made C. D. Holmes & Co. Ltd. A2 when made 1917-7

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 ✓ Is Electric Light fitted no

**ENGINES, &c.**—Description of Engines Trip 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 Steel  
 as fitted 8.25" screw shaft

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 no 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 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 4x4 1/2" Dia. of thrust shaft under  
 as fitted 7.50" collars 7.5" Dia. of screw 9.7 1/2" Pitch of Screw 11.0" No. of Blades 4 State whether moveable - Total surface 33 sq ft

No. of Feed pumps 2 Diameter of ditto 2 5/8" Stroke 14 3/4" Can one be overhauled while the other is at work - 70 S.A.S.

No. of Bilge pumps 2 Diameter of ditto 2 5/8" Stroke 14 3/4" Can one be overhauled while the other is at work -

No. of Donkey Engines one 3" gals Sizes of Pumps 6", 4 1/4" 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" gals

No. of Bilge Injections one sizes 3 1/2" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size 3" gals

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 along casing fixed with wire

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 (S)) Manufacturers of Steel

Total Heating Surface of Boilers 1440 Is Forced Draft fitted no No. and Description of Boilers 1 S.B.

Working Pressure 200 lb Tested by hydraulic pressure to 200 lb Date of test 29-7-17 No. of Certificate 1

Can each boiler be worked separately no Area of fire grate in each boiler 48 sq ft No. and Description of Safety Valves to  
 each boiler 1 Area of each valve 1 1/2" Pressure to which they are adjusted 200 lb Are they fitted with easing gear no

Smallest distance between boilers or uptakes and bunkers or woodwork 12" Mean dia. of boilers 36" Length 12' Material of shell plates Steel

Thickness 3/16" Range of tensile strength 45,000 Are the shell plates welded or flanged no Descrip. of riveting: circ. seams  
 long. seams no Diameter of rivet holes in long. seams 3/16" Pitch of rivets 2" Lap of plates or width of butt straps 1"

Per centages of strength of longitudinal joint 85% rivets 85% Working pressure of shell by rules 200 lb Size of manhole in shell 18"

Size of compensating ring 18" No. and Description of Furnaces in each boiler 3 1/2" Material Steel Outside diameter 36"

Length of plain part top 12" Thickness of plates bottom 3/16" Description of longitudinal joint no No. of strengthening rings no

Working pressure of furnace by the rules 200 lb Combustion chamber plates: Material Steel Thickness: Sides 3/16" Back 3/16" Top 3/16" Bottom 3/16"

Pitch of stays to ditto: Sides 12" Back 12" Top 12" If stays are fitted with nuts or riveted heads no Working pressure by rules 200 lb

Material of stays Steel Area at smallest part 12" Area supported by each stay 12" Working pressure by rules 200 lb End plates in steam space: no

Material Steel Thickness 3/16" Pitch of stays 12" How are stays secured no Working pressure by rules 200 lb Material of stays Steel

Area at smallest part 12" Area supported by each stay 12" Working pressure by rules 200 lb Material of Front plates at bottom Steel

Thickness 3/16" Material of Lower back plate Steel Thickness 3/16" Greatest pitch of stays 12" Working pressure of plate by rules 200 lb

Diameter of tubes 1 1/2" Pitch of tubes 12" Material of tube plates Steel Thickness: Front 3/16" Back 3/16" Mean pitch of stays 12"

Pitch across wide water spaces 12" Working pressures by rules 200 lb Girders to Chamber tops: Material Steel Depth and  
 thickness of girder at centre 12" Length as per rule 12" Distance apart 12" Number and pitch of stays in each 12"

Working pressure by rules 200 lb Steam dome: description of joint to shell no % of strength of joint no

Diameter 12" Thickness of shell plates 3/16" Material Steel Description of longitudinal joint no Diam. of rivet holes 3/16"

Pitch of rivets 2" Working pressure of shell by rules 200 lb Crown plates no Thickness 3/16" How stayed no

**SUPERHEATER.** Type no Date of Approval of Plan no Tested by Hydraulic Pressure to no

Date of Test no Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler no

Material of Safety Valves no Pressure to which each is adjusted no Is Easing Gear fitted no

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 & discharge pump valves, one main & one donkey chest valve, two valves for donkey pump, 6 junk ring studs & nuts, one safety valve spring, 3 condenser tubes, one set of fire bar, & a quantity of bolts & nuts & nuts of various sizes.

The foregoing is a correct description,  
 p.p. The Campbell Gas Engine Co. Ltd.  
W. Marsden  
 Manufacturer.

Dates of Survey while building: (During progress of work in shops --) 25/1 - 2-9-17 - 16-23/2-12-15-23/3 - 5-27/4 - 7-16/5 - 6-15-29/6/7  
 (During erection on board vessel ---) See Hull Bk Rpt No 30.075  
 Total No. of visits \_\_\_\_\_ Is the approved plan of main boiler forwarded herewith \_\_\_\_\_

Dates of Examination of principal parts—Cylinders 9/25 29/4/17 Slides 9/26 29/4/17 Covers 9/26 29/4/17 Pistons 9/26 29/4/17 Rods 9/26 29/4/17  
 Connecting rods 9/26 29/4/17 Crank shaft 9/26 29/4/17 Thrust shaft 9/26 29/4/17 Tunnel shafts \_\_\_\_\_ Screw shaft 9/26 29/4/17 Propeller 9/26 29/4/17  
 Stern tube 9/26 29/4/17 Steam pipes tested 18-7-17 Engine and boiler seatings 12-4-17 Engines holding down bolts 13-7-17  
 Completion of pumping arrangements 24-7-17 Boilers fixed 13-7-17 Engines tried under steam 24-7-17  
 Completion of fitting sea connections 12-4-17 Stern tube 12-4-17 Screw shaft and propeller 12-4-17  
 Main boiler safety valves adjusted 21-7-17 Thickness of adjusting washers 7 1/32 & 3/16  
 Material of Crank shaft Steel Identification Mark on Do. N. 701 Material of Thrust shaft Steel Identification Mark on Do. N. 702  
 Material of Tunnel shafts \_\_\_\_\_ Identification Marks on Do. \_\_\_\_\_ Material of Screw shafts Steel Identification Marks on Do. N. 675  
 Material of Steam Pipes Solid drawn copper Test pressure 400 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" Class "John Yule"

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 workmanship are sound and good.  
The engine has been forwarded to Hull to be fitted on board the vessel

The machinery of this vessel has been properly fitted & secured on board the vessel, the steam pipes tested as above, found sound & good, on completion it was tried 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 2 15 lbs

In my opinion the vessel is eligible for the record + L.M.C. 7.17.  
 It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 7.17.

The amount of Entry Fee ... £ 14 - 0 - 0  
 Special Hull Fitting out ... £ 6 - 10 - 0  
 Donkey Boiler Fee ... £ \_\_\_\_\_  
 Travelling Expenses (if any) £ 4 - 11 - 9  
 When applied for, 1-5-1917  
 When received, 18.11.17  
 P.F. Weston Frank A. Stanger  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. AUG. 31 1917  
 Assigned + L.M.C. 7.17  
 FRI. 31. AUG. 1917

Rpt. 5a.  
 Date of writing Report  
 No. in Survey Reg. Book.  
 on the  
 Master  
 Engines made at  
 Boilers made at  
 Registered Horsepower  
 MULTITUBULAR  
 Letter for record  
 Boilers no  
 No. of Certificates  
 safety valves to  
 Are they fitted with  
 Smallest distance  
 Material of shell  
 Descrip. of rivets  
 Lap of plates or  
 rules 202  
 boiler 3/16  
 Description of lower  
 plates: Material  
 Top 11" x 8" If  
 smallest part 2  
 Pitch of stays 19  
 Area supported by  
 Lower back plate  
 Pitch of tubes 4  
 water spaces  
 rinder at centre  
 Working pressure  
 separately   
 holes  Pitch  
 of stiffened with ri  
 Working pressure  
 Dates of Survey while building (During work in board v  
 GENERAL  
 under sp  
 the materi  
 above for  
 its safety  
 Survey Fee  
 Travelling Exp  
 Committee's Assigned

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

