

# REPORT ON MACHINERY.

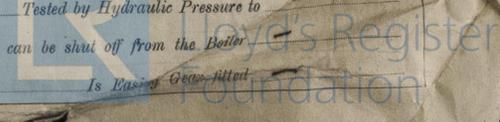
Received at London Office

Date of writing Report 19 When handed in at Local Office 22.7.1919 Port of Sunderland  
 No. in Survey held at Sunderland Date, First Survey 22<sup>nd</sup> Apr. 1919 Last Survey 17<sup>th</sup> Jul. 1919  
 Reg. Book. on the 5/5 "SHAHRISTAN" (Number of Visits 39) Gross 3046.38  
 Master Built at Sunderland By whom built Miss J. Brindman & Co. (282) When built 1919  
 Engines made at Sunderland By whom made Miss J. Clark & Co. (1055) when made 1919  
 Boilers made at Sunderland By whom made Miss J. Clark & Co. (1055) when made 1919  
 Registered Horse Power Owners Strick Line Ltd. Port belonging to Swansea  
 Nom. Horse Power as per Section 28 429 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

**ENGINES, &c.—Description of Engines** Triple No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 25, 41, 68 Length of Stroke 45 Revs. per minute 76 Dia. of Screw shaft as per rule 13.55 Material of screw shaft 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 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 no If two liners are fitted, is the shaft lapped or protected between the liners no Length of stern bush 5-0  
 Dia. of Tunnel shaft as per rule 13.41 Dia. of Crank shaft journals as per rule 13.22 Dia. of Crank pin 13 1/2 Size of Crank webs 20 1/2 x 8 1/2 Dia. of thrust shaft under collars 13 1/4 Dia. of screw 16.0 Pitch of Screw 16-3 No. of Blades 4 State whether moveable no Total surface 755  
 No. of Feed pumps 2 Diameter of ditto 3 1/2 Stroke 24 Can one be overhauled while the other is at work yes  
 No. of Bilge pumps 2 Diameter of ditto 3 1/2 Stroke 24 Can one be overhauled while the other is at work yes  
 No. of Donkey Engines 3 Sizes of Pumps 9 1/2 x 7 1/8, 10 1/2 x 12 1/2 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 5, 3" In Holds, &c. From 1 main hold 2, 3" in hold, after  
 No. of Bilge Injections 2 size 8" Connected to condenser or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size 4 1/2 3"  
 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 yes  
 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 no How are they protected no  
 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 yes worked from upper platform

**BOILERS, &c.—(Letter for record 5) Manufacturers of Steel Sponner & Sons**  
 Total Heating Surface of Boilers 6321 Is Forced Draft fitted yes No. and Description of Boilers Three single end  
 Working Pressure 180 No Tested by hydraulic pressure to 360 No Date of test 4.6.19, 5.6.19 No. of Certificates 3568, 3570  
 Can each boiler be worked separately yes Area of fire grate in each boiler 53 No. and Description of Safety Valves to each boiler Two Spring valves Area of each valve 8.29 Pressure to which they are adjusted 185 No Are they fitted with easing gear yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork way between Mean dia. of boilers 14-0 Length 11-7 Material of shell plates 5  
 Thickness 1 1/8 Range of tensile strength 28 1/2 - 33 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams lap long seams lap  
 Diameter of rivet holes in long. seams 1 3/8 Pitch of rivets 8 1/2 Lap of plates or width of butt straps 18  
 Per centages of strength of longitudinal joint rivets 80.1 Working pressure of shell by rules 187 Size of manhole in shell 16 x 12  
 Size of compensating ring None No. and Description of Furnaces in each boiler 3 Simple Material 5 Outside diameter 3-7  
 Length of plain part top 12 Thickness of plates bottom 3 1/2 Description of longitudinal joint Welded No. of strengthening rings no  
 Working pressure of furnace by the rules 180 Combustion chamber plates: Material 5 Thickness: Sides 1/8 Back 3/4 Top 1/8 Bottom 1/8  
 Pitch of stays to ditto: Sides 9 x 9 3/8 Back 10 3/8 x 9 1/2 Top 9 x 9 3/8 If stays are fitted with nuts or riveted heads yes Working pressure by rules 183  
 Material of stays 5 Area at smallest part 2.03 Area supported by each stay 84.4 Working pressure by rules 210 End plates in steam space: Material 5 Thickness 1 3/8 Pitch of stays 23 1/2 x 19 1/2 How are stays secured by nuts Working pressure by rules 181 Material of stays 5  
 Area at smallest part 8.29 Area supported by each stay 463 Working pressure by rules 186 Material of Front plates at bottom 5  
 Thickness 3/2 Material of Lower back plate 5 Thickness 3/2 Greatest pitch of stays 13 1/2 Working pressure of plate by rules 186  
 Diameter of tubes 2 3/4 Pitch of tubes 4 x 4 Material of tube plates 5 Thickness: Front 3/2 Back 3/2 Mean pitch of stays 10  
 Pitch across wide water spaces 13 1/2 Working pressures by rules 184 Girders to Chamber tops: Material 5 Depth and thickness of girder at centre 10 x 1 1/2 Length as per rule 2-11 1/2 Distance apart 9 3/8 Number and pitch of stays in each 3, 9  
 Working pressure by rules 186 Steam dome: description of joint to shell no % of strength of joint no  
 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 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  
 Diameter of Safety Valve no Pressure to which each is adjusted no Is Easing Gear fitted no



Is a Report also sent on the Hull of the Ship?

2m.8.13. T

IS A DONKEY BOILER FITTED? NO

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— Two top end and two bottom end connecting rod bolts and nuts, two main bearing bolts, one set coupling bolts, one set fuel and bilge pumps valves assembly bolts and nuts, Iron of various sizes.

The foregoing is a correct description,

FOR GEORGE CLARK LIMITED

W & S MULL

Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1918 Apr. 22, Jun 24, Sep. 11, Oct. 23, Nov. 7, 20, 25, 29, Dec. 5, 11, 16, Jan. 8, 14, 21, 23, 27, 30, Feb. 4, 11, 18, 25, Mar. 4, 6, 10, 17, Apr. 3, 4, 7, May 6, 9, 12, 16, 20, 26, 30, Jun. 3, 4, 5, 15, 21, Jul. 17  
Total No. of visits 39

Is the approved plan of main boiler forwarded herewith YES

Is the approved plan of main boiler forwarded herewith YES

Dates of Examination of principal parts—Cylinders 3.4.19 Slides 21.2.19 Covers 7.4.19 Pistons 10.3.19 Rods 3.4.19

Connecting rods 3.4.19 Crank shaft 17.3.19 Thrust shaft 26.5.19 Tunnel shafts 3.1.19 Screw shaft 6.5.19 Propeller 6.5.19

Stern tube 6.5.19 Steam pipes tested 30.5.19, 18.6.19 Engine and boiler seatings 20.5.19 Engines holding down bolts 3.4.19

Completion of pumping arrangements 3.6.19 Boilers fixed 18.6.19 Engines tried under steam 21.6.19

Completion of fitting sea connections 20.5.19 Stern tube 30.5.19 Screw shaft and propeller 30.5.19

Main boiler safety valves adjusted 21.6.19 Thickness of adjusting washers 5 1/16, 1 3/8, 5 7/16, 4 1/8, 1 3/8, 5 3/8, 1 1/2, 1 5/8, 5 3/8

Material of Crank shaft Steel Identification Mark on Do. 1085 GAH Material of Thrust shaft Steel Identification Mark on Do. 1085 GAH

Material of Tunnel shafts Iron Identification Marks on Do. 1085 GAH Material of Screw shafts Iron Identification Marks on Do. 1085 GAH

Material of Steam Pipes Iron Test pressure 540 lbs sq in

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?  If so, state name of vessel C. Type

General Remarks (State quality of workmanship, opinions as to class, &c.) The machinery of this vessel has been built under special survey. The materials and workmanship are sound and good and under the vessel class in my opinion to have credit of + L.M.C. 6.19

It is submitted that this vessel is eligible for THE RECORD + LMC 7.19. F.D.

W. H. H. H.  
24/7/19.  
Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ : : When applied for, 22 JUL 1919  
Special ... £ 68-7-1 : :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : : When received, 30/8/19

Committee's Minute TUE. 29 JUL. 1919  
Assigned + L.M.C. 6.19.  
H. D.



MACHINERY CERTIFICATE WRITTEN

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