

# REPORT ON MACHINERY.

No. 73313

Received at London Office

Date of writing Report 17.7.1920 When handed in at Local Office 17.7.1920 Port of Newcastle-on-Tyne  
 No. in Survey held at Newcastle Date, First Survey 19.4.1918 Last Survey 17.6.1920  
 Reg. Book. 27583 on the T. S. S. TAIROA (Number of Visits)

Master Built at Newcastle By whom built Sir W. G. Armstrong Whitworth & Co. Ltd. When built 1919  
 Engines made at Newcastle By whom made North Eastern Marine Engineering Co. Ltd. when made 1920  
 Boilers made at Newcastle By whom made do. when made 1920

Registered Horse Power Owners Shaw Savill & Albion Co. Ltd. Port belonging to Southampton  
 Nom. Horse Power as per Section 28 1011 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes

Engines, &c.—Description of Engines Twin Screw Quadruple Expansion No. of Cylinders 8 No. of Cranks 8  
 Dia. of Cylinders 22"-31½"-45"-65" Length of Stroke 48" Revs. per minute Dia. of Screw shaft as per rule 13.6" 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

Is the propeller boss Yes If the liner is in more than one length are the joints burned 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 5'-9"

Dia. of Tunnel shaft as per rule 12.37" Dia. of Crank shaft journals as per rule 12.98" Dia. of Crank pin 14" Size of Crank webs 2"x9½" Dia. of thrust shaft under collars 14" Dia. of screw 16.3" Pitch of Screw 17.6" No. of Blades 4 State whether moveable Yes Total surface 78 sq ft  
 No. of Feed pumps 2 Diameter of ditto 5¾" Stroke 24" Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps 2 Diameter of ditto 5½" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3 Sizes of Pumps 1-10"x12"x12"; 2-9½"x7"x21" No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room 4-3½" In Holds, &c. No. 1. Hold 2-3½" No. 2. Hold 2-3½" No. 3. Hold 2-3½"

No. of Bilge Injections 2 sizes 10" Connected to condenser or to circulating pumps Yes Is a separate Donkey Suction fitted in Engine room & size Yes 2-3½"  
 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 Both  
 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 Succans to No. 2 holds How are they protected Wood 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  
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top platform

Boilers, &c.—(Letter for record 3) Manufacturers of Steel John Spencer & Sons Ltd.  
 Double Ended 10148 sq ft 2 Single Ended 5294 sq ft Is Forced Draft fitted Yes No. and Description of Boilers 2 Double Ended 7 2513  
 Total Heating Surface of Boilers 15442 sq ft Tested by hydraulic pressure to 440 lbs Date of test 1-19.12.19 No. of Certificate 9351

Working Pressure 220 lbs Area of fire grate in each boiler 118.8 sq ft No. and Description of Safety Valves to each boiler 3 Spring loaded Area of each valve 9.62 sq ft Pressure to which they are adjusted 225 lbs Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 13" Mean dia. of boilers 14'-10½" Length 21'-6" Material of shell plates Steel

Thickness 1 3/8" Range of tensile strength 29 3/4/33 Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams 0 & S. Lap  
 Long. seams T.R. Diameter of rivet holes in long. seams 1 3/16" Pitch of rivets 9 1/16" Lap of plates or width of butt straps 21 1/8"  
 Percentages of strength of longitudinal joint rivets 90.6 Working pressure of shell by rules 222 Size of manhole in shell 16"x12"

Size of compensating ring No. and Description of Furnaces in each boiler 6-Maisons Material Steel Outside diameter 46 1/4"  
 Length of plain part top Thickness of plates crown 1 3/8" Description of longitudinal joint welded No. of strengthening rings  
 Working pressure of furnace by the rules 232 Combustion chamber plates: Material Steel Thickness: Sides 23 3/32" Back Top 23 3/32" Bottom 1 1/8"

Pitch of stays to ditto: Sides 9 3/4"x8" Back Top 9 3/4"x8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 225  
 Material of stays Steel Area at smallest part 2.360 sq ft Area supported by each stay 78 sq ft Working pressure by rules 272 End plates in steam space:  
 Material Steel Thickness 1 3/8" Pitch of stays 20"x19 1/2" How are stays secured On washers Working pressure by rules 229 Material of stays Steel

Area at smallest part 9.62 sq ft Area supported by each stay 3900 sq ft Working pressure by rules 250 Material of Front plates at bottom Steel  
 Thickness 1 3/8" Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules  
 Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" Material of tube plates Steel Thickness: Front 1 1/2" Back 1" Mean pitch of stays 9 3/8"

Pitch across wide water spaces 14" Working pressures by rules 222 Girders to Chamber tops: Material Steel Depth and  
 Thickness of girder at centre 13 1/2"x2 1/2" Length as per rule 54" Distance apart 9 3/4" Number and pitch of stays in each 5-8"  
 Working pressure by rules 223 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  
 W439-0286



