

REPORT ON MACHINERY.

No. 7668

Received at London Office **WED. 31 MAY. 1916**
 Date of writing Report **27 May 1916** when rendered in at Local Office **10** Port of **Belfast**
 No. in Survey held at **Belfast** Date, First Survey **Aug 13, 1915** Last Survey **May 19, 1916**
 Reg. Book. on the **H.M.S. "Petunia"** (Number of Visits **170**) Gross Tonnage **1916**
 Master **Belfast** Built at **Belfast** By whom built **Harkman Clark & Co**
 Engines made at **Belfast** By whom made **-** when made **-**
 Boilers made at **Belfast** By whom made **-** when made **-**
 Registered Horse Power **347** Owners **The Admiralty** Port belonging to **✓**
 Nom. Horse Power as per Section 28 **347** Is Refrigerating Machinery fitted for cargo purposes **No** Is Electric Light fitted **Yes**

ENGINES, &c.—Description of Engine **Single Screw 4 Cyl. Triple** of Cylinders **4** No. of Cranks **4**
 Dia. of Cylinders **21 3/4 - 35 - 40 - 40** Length of Stroke **30** Revs. per minute **165** Dia. of Screw shaft as per rule **10.5** Material of **Steel**
 as fitted **10.75** 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 **✓** 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 **50**
 Dia. of Tunnel shaft as per rule **9.88** Dia. of Crank shaft journals as per rule **10.37** Dia. of Crank pin **10 1/2** Size of Crank web **18 1/2 x 7** Dia. of thrust shaft under
 collars **10 3/4** Dia. of screw **9 - 6** Pitch of Screw **12 - 10 1/2** No. of Blades **4** State whether moveable **No** Total surface **36 sq ft.**
 No. of Feed pumps **None** Main Engine overhauled while the other is at work **✓**
 No. of Bilge pumps **None** Main Engine overhauled while the other is at work **✓**
 No. of Donkey Engines **See separate sheet** No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room **4 - 3 1/2 + 4 - 3 1/2** in stokeholds **9 - 2 1/2**
 No. of Bilge Injections **1** sizes **8"** Connected to condenser, or to circulating pump **Pumps** a separate Donkey Suction fitted in Engine room & size **2 - 3 1/2**
 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 **✓**
 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 **Below**
 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 **Fore hold suction** How are they protected **Wood 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**
 Dates of examination of completion of fitting of Sea Connections **28-3-16** of Stern Tube **27-3-16** Screw shaft and Propeller **28-3-16**
 Is the Screw Shaft Tunnel watertight **Yes** Is it fitted with a watertight door **Yes** worked from **Below + Deck**

BOILERS, &c.—(Letter for record **S**) Manufacturers of Steel **Glasgow J. & Co of John Spencer & Son**
 Total Heating Surface of Boilers **6016 sq ft** forced Draft fitted **Yes** No. and Description of Boilers **2 Single End Cylind.**
 Working Pressure **180 lbs** Tested by hydraulic pressure to **360 lbs** Date of test **25-3-16** No. of Certificate **491**
 Can each boiler be worked separately **Yes** Area of fire grate in each boiler **74 1/2 sq ft.** No. and Description of Safety Valves to
 each boiler **2 Direct Spring** Area of each valve **12.56 sq in** Pressure to which they are adjusted **185 lbs** Are they fitted with easing gear **Yes**
 Smallest distance between boilers or uptakes and bunkers or woodwork **About 14** Mean dia. of boilers **15' - 6"** Length **11' - 6"** Material of shell plates **Steel**
 Thickness **1/2** Range of tensile strength **31 3/4 - 35 tons** Are the shell plates welded or flanged **No** Descrip. of riveting: cir. seams **Lap & J.**
 long. seams **Butt** Diameter of rivet holes in long. seams **1 1/2** Pitch of rivets **9** Lap of plates or width of butt straps **19 3/8**
 Per centages of strength of longitudinal joint rivets **93.7** Working pressure of shell by rules **205 lbs** Size of manhole in shell **16 x 12**
 plate **8.5' 0"**
 Size of compensating rim **McNeil** No. and Description of Furnaces in each boiler **4 - Doughton** Material **Steel** Outside diameter **43 1/2**
 Length of plain part top **9** Thickness of plates crown **3 3/4** Description of longitudinal joint **Weld** No. of strengthening rings **✓**
 bottom **9** bottom **3 3/4**
 Working pressure of furnace by the rules **181 lbs** Combustion chamber plates: Material **Steel** Thickness: Sides **3 1/2** Back **C 1/4 W 1/2** Bottom **3**
 Pitch of stays to ditto: Sides **8 5/8 x 8 5/8** Back **Various** Top **8 5/8 x 8 5/8** stays are fitted with nuts or riveted heads **Nuts** Working pressure by rules **192 lbs**
 Material of stay **Steel** Diameter at smallest part **1 7/8** supported by each stay **77 5/8** Working pressure by rules **198 lbs** and plates in steam space
 Material **Steel** Thickness **1 7/8** Pitch of stays **19 x 15** How are stays secured **Nuts + Washers** Working pressure by rules **183 lbs** Material of stays **Steel**
 Diameter at smallest part **5/4** supported by each stay **28.5 sq in** Working pressure by rules **215 lbs** Material of Front plates at bottom **Steel**
 Thickness **1/2** Material of Lower back plate **Steel** Thickness **7/8** Greatest pitch of stays **15 1/2 x 8** Working pressure of plate by rules **198 lbs**
 Diameter of tubes **2 1/2** Pitch of tubes **3 1/2 x 3 1/2** Material of tube plate **Steel** Thickness: Front **4 1/2** Back **3** Mean pitch of stays **10 1/2 x 7**
 Pitch across wide water spaces **13 1/2** Working pressures by rules **186 lbs** Girders to Chamber tops: Material **Steel** Depth and
 thickness of girder at centre **7 1/2 x (1/4 + 2)** Length as per rule **28 5/8** Distance apart **8 1/2** Number and pitch of stays in each **2 - 8 5/8**
 Working pressure by rules **185 lbs** Superheater or Steam chest; how connected to boiler **✓** Can the superheater be shut off and the boiler worked
 separately **✓** Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet
 holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness
 If stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed
 Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

