

Rpt. 4.

## REPORT ON MACHINERY.

No. 61722

Received at London Office FEB. 2-1912

Date of writing Report 19 When handed in at Local Office 19 Port of **NEWCASTLE ON TYNE**

No. in Survey held at **Newcastle on Tyne** Date, First Survey **6<sup>th</sup> Sept. 1911** Last Survey **19<sup>th</sup> Jan. 1912**  
 Reg. Book. on the **S. S. "Hascopie"** (Number of Visits **47**)

Master Built at **Walker** By whom built **Swan Hunter & Wigham Richardson** When built **1912**  
 Engines made at **Walker** By whom made **Swan Hunter & Wigham Richardson** when made **1912**  
 Boilers made at **Walker** By whom made **Sitto** when made **1912**

Registered Horse Power Owners **Job. Bros.** Port belonging to **St John N.**  
 Nom. Horse Power as per Section 28 **339** Is Refrigerating Machinery fitted for cargo purposes **No** Is Electric Light fitted **Yes**

**ENGINES, &c.**—Description of Engines **Inverted triple expansion** No. of Cylinders **3** No. of Cranks **3**  
 Dia. of Cylinders **21 $\frac{1}{2}$ ", 35 $\frac{1}{2}$ ", 58"** Length of Stroke **42"** Revs. per minute **110** Dia. of Screw shaft as per rule **11 $\frac{1}{2}$ "** 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 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 **4' 10"**  
 Dia. of Tunnel shaft as per rule **10 $\frac{1}{2}$ "** Dia. of Crank shaft journals as per rule **11 $\frac{1}{2}$ "** Dia. of Crank pin **13"** Size of Crank webs **20x9"** Dia. of thrust shaft under collars **13 $\frac{1}{4}$ "** Dia. of screw **13 $\frac{1}{2}$ "** Pitch of Screw **13 $\frac{1}{2}$ "** No. of Blades **4** State whether moveable **Yes** Total surface **63 $\frac{1}{2}$ "**  
 No. of Feed pumps **2** Diameter of ditto **3"** Stroke **22"** Can one be overhauled while the other is at work **Yes**  
 No. of Bilge pumps **2** Diameter of ditto **3 $\frac{1}{2}$ "** Stroke **22"** Can one be overhauled while the other is at work **Yes**  
 No. of Donkey Engines **2** Sizes of Pumps **10x10x15; 7 $\frac{1}{2}$ x6x16** and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room **3 of 3 $\frac{1}{2}$ "** In holds, &c. **3 of 3 $\frac{1}{2}$ " to 20 1 x 2 of 3 $\frac{1}{2}$ "**  
 No. of Bilge Injections **1** sizes **6"** Connected to condenser, or to circulating pump **Yes** Is a separate Donkey Suction fitted in Engine room & size **Yes, 3 $\frac{1}{2}$ "**  
 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 **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 **Fore hold bilge pipes** How are they protected **strong 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**  
 Dates of examination of completion of fitting of Sea Connections **6.12.11** of Stern Tube **6.12.11** Screw shaft and Propeller **6.12.11**  
 Is the Screw Shaft Tunnel watertight **Yes** Is it fitted with a watertight door **Yes** worked from **top platform**

**BOILERS, &c.**—(Letter for record **r**) Manufacturers of Steel **J. Spencer & Sons**

Total Heating Surface of Boilers **5322 $\frac{1}{2}$**  Is Forced Draft fitted **Yes** No. and Description of Boilers **2 S.E. Cyl $\frac{1}{2}$  Mull-**  
 Working Pressure **180 lbs** Tested by hydraulic pressure to **360 lbs** Date of test **10.11.11** No. of Certificate **8235**  
 Can each boiler be worked separately **Yes** Area of fire grate in each boiler **60.75 $\frac{1}{2}$**  No. and Description of Safety Valves to each boiler **2 Spring Patent** Area of each valve **11.04 $\frac{1}{2}$**  Pressure to which they are adjusted **186 lbs** Are they fitted with easing gear **Yes**  
 Smallest distance between boilers or uptakes and bunkers or woodwork **5" with air** Baffle plate fitted **Yes** Dia. of boilers **15' 0"** Length **11' 6"** Material of shell plates **steel**  
 Thickness **1 $\frac{3}{16}$ "** Range of tensile strength **28 $\frac{1}{2}$ /32** Are the shell plates welded or flanged on **no** Descrip. of riveting: cir. seams **d & lap**  
 long. seams **l & d & s** Diameter of rivet holes in long. seams **1 $\frac{1}{4}$ "** Pitch of rivets **8 $\frac{3}{4}$ "** Lap of plates or width of butt straps **18 $\frac{1}{2}$ "**  
 Per centages of strength of longitudinal joint rivets **87** Working pressure of shell by rules **182 lbs** Size of manhole in shell **16x12"**  
 Size of compensating ring **9x1 $\frac{3}{4}$ "** No. and Description of Furnaces in each boiler **3 Morion** Material **steel** Outside diameter **47 $\frac{3}{4}$ "**  
 Length of plain part top **✓** Thickness of plates crown **9 $\frac{1}{16}$ "** Description of longitudinal joint **weld** No. of strengthening rings **✓**  
 Working pressure of furnace by the rules **186 lbs** Combustion chamber plates: Material **steel** Thickness: Sides **1 $\frac{1}{16}$ "** Back **1 $\frac{1}{16}$ "** Top **1 $\frac{1}{16}$ "** Bottom **7 $\frac{1}{8}$ "**  
 Pitch of stays to ditto: Sides **9 $\frac{1}{4}$ x9 $\frac{3}{4}$ "** Back **9 $\frac{1}{2}$ x8 $\frac{1}{2}$ "** Top **9 $\frac{1}{2}$ x9"** If stays are fitted with nuts or riveted heads **nuts** Working pressure by rules **5-180**  
 Material of stays **iron** Diameter at smallest part **2.36** Area supported by each stay **13.14.5** Working pressure by rules **13-210** End plates in steam space: **5-196**  
 Material **Steel** Thickness **1 $\frac{1}{4}$ "** Pitch of stays **21x17 $\frac{1}{2}$ "** How are stays secured **d & w** Working pressure by rules **189 lbs** Material of stays **steel**  
 Diameter at smallest part **6.65** Area supported by each stay **367.5** Working pressure by rules **188 lbs** Material of Front plates at bottom **steel**  
 Thickness **29 $\frac{1}{32}$ "** Material of Lower back plate **steel** Thickness **3 $\frac{1}{2}$ "** Greatest pitch of stays **as per plan** Working pressure of plate by rules **236 lbs**  
 Diameter of tubes **2 $\frac{1}{2}$ "** Pitch of tubes **3 $\frac{1}{2}$ x3 $\frac{1}{4}$ "** Material of tube plates **steel** Thickness: Front **29 $\frac{1}{32}$ "** Back **3 $\frac{1}{4}$ "** Mean pitch of stays **12x10 $\frac{1}{2}$ "**  
 Pitch across wide water spaces **13 $\frac{1}{2}$ "** Working pressures by rules **184 lbs** Girders to Chamber tops: Material **steel** Depth and thickness of girder at centre **9x1 $\frac{3}{8}$ "** Length as per rule **32 $\frac{1}{2}$ "** Distance apart **9"** Number and pitch of stays in each **2-9 $\frac{1}{2}$ "**  
 Working pressure by rules **183 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 rise 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 **✓**

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## VERTICAL DONKEY BOILER—Manufacturers of Steel

No. \_\_\_\_\_ Description \_\_\_\_\_  
 Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_  
 Working pressure \_\_\_\_\_ tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of Safety \_\_\_\_\_  
 Valves \_\_\_\_\_ No. of Safety Valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Date of adjustment \_\_\_\_\_  
 If fitted with easing gear \_\_\_\_\_ If steam from main boilers can enter the donkey boiler \_\_\_\_\_ Dia. of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_  
 Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Descrip. of riveting long. seams \_\_\_\_\_ Rivets \_\_\_\_\_  
 Dia. of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_ Plates \_\_\_\_\_  
 Working pressure of shell by rules \_\_\_\_\_ Thickness of shell crown plates \_\_\_\_\_ Radius of do. \_\_\_\_\_ No. of stays to do. \_\_\_\_\_ Dia. of stays \_\_\_\_\_  
 Diameter of furnace Top \_\_\_\_\_ Bottom \_\_\_\_\_ Length of furnace \_\_\_\_\_ Thickness of furnace plates \_\_\_\_\_ Description of joint \_\_\_\_\_  
 Working pressure of furnace by rules \_\_\_\_\_ Thickness of furnace crown plates \_\_\_\_\_ Radius of do. \_\_\_\_\_ Stayed by \_\_\_\_\_  
 Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_ Dates of survey \_\_\_\_\_

SPARE GEAR. State the articles supplied:— 2 Top end, 2 bottom end, 2 Main bearing & 1 set of coupling bolts  
 1 set feed & bilge pump Valves, bolts & nuts assorted & iron of pipes, 4 Propeller blades & 6 studs  
 & nuts for same, 6 Air pump Valves, 1 Air pump rod, 4 Main feed check Valves, 3 Piston rings for HP & MP pistons  
 1 Impeller shaft, 1 slide Valve spindle, 10 piston Valve complete

The foregoing is a correct description,  
 SWAN HUNTER & WIGHAM RICHARDSON, LTD.

Manufacturer.

Dates of Survey while building  
 During progress of work in shops— 1911 Feb. 6. 12. 19. 25. 27. Oct. 2. 4. 9. 12. 17. 18. 19. 20. 23. 24. 26. 27. Nov. 2. 3. 6. 7. 8. 9. 10. 13. 14. 17. 22. 24. 27. 30.  
 During erection on board vessel— Dec. 4. 5. 6. 8. 11. 15. 19. 20. 21. 27. 28. Jan. 4. 5. 9. 16. 19.  
 Total No. of visits 47

Is the approved plan of main boiler forwarded herewith ☒ Yes

" " " donkey " " " ☒ Yes

Dates of Examination of principal parts—Cylinders 18. 10. 11 Slides 13. 11. 11 Covers 20. 10. 11 Pistons 20. 10. 11 Rods 8. 11. 11  
 Connecting rods 8. 11. 11 Crank shaft 4. 10. 11 Thrust shaft 20. 10. 11 Tunnel shafts 20. 10. 11 Screw shaft 8. 11. 11 Propeller 13. 11. 11  
 Stern tube 27. 9. 11 Steam pipes tested 28. 12. 11 Engine and boiler seatings 6. 12. 11 Engines holding down bolts 14. 12. 11  
 Completion of pumping arrangements 9. 1. 12 Boilers fixed 14. 12. 11 Engines tried under steam 9. 1. 12  
 Main boiler safety valves adjusted 9. 1. 12 Thickness of adjusting washers P.P.  $\frac{3}{8}$ ; P.S.  $\frac{3}{8}$ ; S.P.  $\frac{3}{8}$ ; S.S.  $\frac{3}{8}$   
 Material of Crank shaft Steel Identification Mark on Do. 518 M.B. Material of Thrust shaft Steel Identification Mark on Do. R.W.C. 20. 10. 11  
 Material of Tunnel shafts Steel Identification Marks on Do. R.W.C. 20. 10. 11 Material of Screw shafts Steel Identification Marks on Do. R.W.C. 8. 11. 11  
 Material of Steam Pipes Steel Test pressure 540 lbs

General Remarks (State quality of workmanship, opinions as to class, &c.)

The Machinery of this vessel has been constructed under special survey, the workmanship and materials used are both of good quality, the Engines have been tried under steam ahead & astern and worked satisfactorily.

We beg to recommend that this vessel is shippable in our opinion to have the record **L.M.C. 1-12.** in the Register Book.

It is submitted that this vessel is eligible for THE RECORD.

+ L.M.C. 1-12.

The amount of Entry Fee ... £ 3 : 0 : 0 When applied for, FEB 1 1912  
 Special ... £ 36 : 19 : 0  
 Donkey Boiler Fee ... £ : : :  
 Travelling Expenses (if any) £ : : :  
 When received, 3. 2. 12

Committee's Minute

TUE. FEB. 6 - 1912

Assigned

MACHINERY CERTIFICATE NOTED

R. W. Coomber & Wm. Cowie  
 Engineer Surveyors to Lloyd's Register of British & Foreign Shipping.



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