

# REPORT ON MACHINERY.

Port of Newcastle-on-Tyne

Received at London Office

FRI 5 JUN 1903

Survey held at Newcastle  
on the S/S "Canopus"

Date, first Survey 16 October 1902 Last Survey 22 May 1903

(Number of Visits 22)

Tons Gross 1336.90  
Net 834.58

Built at Newcastle

By whom built C. J. Swan & Co. Ltd. When built 1903

made at Newcastle

By whom made Walker & Co. Slipways & Eng. Co. when made 1903

made at Newcastle

By whom made Walker & Co. Slipways & Eng. Co. when made 1903

ed Horse Power

Owners The Westport Coal Co. Ltd. Port belonging to Dunedin

orse Power as per Section 28 222

Is Refrigerating Machinery fitted No

Is Electric Light fitted No

ES, &c.—Description of Engines Triple No. of Cylinders 3 No. of Cranks 3

Cylinders 21 35 56 Length of Stroke 39 Revs. per minute 70 Dia. of Screw shaft as per rule 11.27 11.14  
as fitted 10.24 10.15 as fitted 11.3 Lgh. of stern bush 48

annel shaft as per rule 10.24 10.15 as fitted 10.24 Dia. of Crank shaft journals as per rule 10.5 10.65 as fitted 10.24 Dia. of Crank pin 11 Size of Crank webs 2 1/2 x 7 1/2 Dia. of thrust shaft under 10 3/4

Dia. of screw 13-3 Pitch of screw 17-6 No. of blades 4 State whether moveable No Total surface 56.9

Feed pumps 2 Diameter of ditto 3 Stroke 22 Can one be overhauled while the other is at work No

Bilge pumps 2 Diameter of ditto 3 1/2 Stroke 22 Can one be overhauled while the other is at work No

Donkey Engines 2 Sizes of Pumps 7 1/2 + 5 1/2 + 15 + 9 + 10 + 4 + 10 No. and size of Suctions connected to both Bilge and Donkey pumps

ine Room Two 2 1/2 In Holds, &c. Two in No 2 hold + two in No 4 hold

ilge injections 1 sizes 5 1/2 Connected to condenser or to circulating pump No Is a separate donkey suction fitted in Engine room & size No 2 1/2

the bilge suction pipes fitted with roses No Are the roses in Engine room always accessible No Are the shutces on Engine room bulkheads always accessible No

connections with the sea direct on the skin of the ship No Are they Valves or Cocks Both

ry fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates No Are the discharge pipes above or below the deep water line Below

ry each fitted with a discharge valve always accessible on the plating of the vessel No Are the blow off cocks fitted with a spigot and brass covering plate No

pipes are carried through the bunkers No How are they protected ✓

l pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times No

e bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges No

were stern tube, propeller, screw shaft, and all connections examined in dry dock No Is the screw shaft tunnel watertight No

itted with a watertight door No worked from Upper Platform. Engines fitted aft.

ERS, &c.— (Letter for record S) Total Heating Surface of Boilers 37409 Is forced draft fitted No

nd Description of Boilers Two simple Endless Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs

of test 20/12/02 Can each boiler be worked separately No Area of fire grate in each boiler 61 1/2 No. and Description of safety valves to

oiler Two Spring Valves Area of each valve 7.07 Pressure to which they are adjusted 163 lbs Are they fitted with easing gear No

at distance between boilers or uptakes and bunkers or woodwork 4 1/2 Mean dia. of boilers 14-0 Length 10-6 Material of shell plates S

ess 32 Range of tensile strength 29-32 Are they welded or flanged No Descrip. of riveting: cir. seams Lap long. seams A. B. C. riv.

ter of rivet holes in long. seams 1 3/16 Pitch of rivets 8 1/8 Lap of plates or width of butt straps 17 7/16

ntages of strength of longitudinal joint rivets 92 Working pressure of shell by rules 177 Size of manhole in shell 12 x 16

compensating ring No No. and Description of Furnaces in each boiler 3 Corrugated Material S Outside diameter 45

h of plain part top ✓ Thickness of plates crown 3 1/8 Description of longitudinal joint Weld No. of strengthening rings 2

ing pressure of furnace by the rules 160 Combustion chamber plates: Material S Thickness: Sids 2 1/2 Back 4/16 Top 2 1/2 Bottom 13/16

of stays to ditto: Sides 9 1/2 x 9 1/2 Back 9 1/2 x 10 Top 9 1/2 x 9 1/2 If stays are fitted with nuts or riveted heads No Working pressure by rules 169

erial of stays S Diameter at smallest part 1 5/8 Area supported by each stay 95 Working pressure by rules 192 End plates in steam space:

erial S Thickness 1 3/8 Pitch of stays 19 1/2 x 19 1/2 How are stays secured A. B. C. Working pressure by rules 224 Material of stays S

at smallest part 7.24 Area supported by each stay 376 Working pressure by rules 191 Material of Front plates at bottom S

ness 1 Material of Lower back plate S Thickness 2 1/8 Greatest pitch of stays 14 1/2 Working pressure of plate by rules 170

eter of tubes 3 1/4 Pitch of tubes 4 1/2 + 4 7/16 Material of tube plates S Thickness: Front 1 1/8 Back 1 1/8 Mean pitch of stays 9 1/2

across wide water spaces 13 1/2 Working pressures by rules 210 Girders to Chamber tops: Material S Depth and

ness of girder at centre 8 1/2 x 1 1/2 Length as per rule 3 1/2 Distance apart 9 1/2 Number and pitch of Stays in each 2, 9 1/2

king pressure by rules 175 Superheater or Steam chest; how connected to boiler ✓ Can the superheater be shut off and the boiler worked

ately ✓ Diameter ✓ Length ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivet

✓ Pitch of rivets ✓ Working pressure of shell by rules ✓ Diameter of flue ✓ Material of flue plates ✓ Thickness ✓

iffened with rings ✓ Distance between rings ✓ Working pressure by rules ✓ End plates: Thickness ✓ How stayed ✓

king pressure of end plates ✓ Area of safety valves to superheater ✓ Are they fitted with easing gear ✓



**DONKEY BOILER**— No. *One* Description *Multitubular*  
 Made at *Whitchurch* By whom made *Clara Chapman & Co* When made *17/3/03* Where fixed *Whitchurch*  
 Working pressure *80 lbs* tested by hydraulic pressure to *100 lbs* No. of Certificate *1528* Fire grate area *259* Description of safety valves *spring*  
 No. of safety valves *2* Area of each *5.42 sq* Pressure to which they are adjusted *80 lbs* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Dia. of donkey boiler *9-6* Length *10-0* Material of shell plates *S* Thickness *3/16* Range of tensile strength *27-32* Descrip. of riveting long-seams *Lap lapped* Dia. of rivet holes *7/8* Whether punched or drilled *Not* Pitch of rivets *3 1/2*  
 Lap of plating *1 1/2* Per centage of strength of joint *87.0* Rivets *78.0* Thickness of shell plates *3/16* Radius of do. *✓* No. of Stays to do. *10*  
 Dia. of stays *1 1/2* Diameter of furnace *2-11 1/8* Bottom *✓* Length of furnace *6-6* Thickness of furnace plates *5/8* Description of joint *Lap lapped* Thickness of *2.0* plates *1/2* Stayed by *1 3/8 stay 9 x 8 1/2 pitch* Working pressure of shell by rules *96*  
 Working pressure of furnace by rules *90* Diameter of *like 3 1/4* tubes *like* Thickness of *like* plates *1/8* Thickness of *like* tubes *104.9*

**SPARE GEAR.** State the articles supplied:— *Two lip end + two bottom end cm. 20th bolts + nuts, two main bearing bolts, one set coupling bolts, one set feed + tiller pump valves, assorted bolts + nuts, 2mm of various sizes, one propeller shaft 1/3 length crank shaft.*

The foregoing is a correct description,

Manufacturer.

*W. H. King*

Dates of Survey while building  
 During progress of work in shops— *1902 Oct. 16, 23, 27. Nov. 7, 13, 25. Dec. 3, 5, 18, 20. 1903 Jan. 19, 22. Feb. 14, 16.*  
 During erection on board vessel— *Mar. 3, 17, 23, 24, 27. May 14, 19, 22.*  
 Total No. of visits *22*

Is the approved plan of main boiler forwarded herewith *Yes*

“ “ “ donkey “ “ “ *No*

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

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 *✓*  
 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 *—*

*The machinery of this vessel has been built under special survey, the materials and workmanship are sound and good and under the vessel shifts in my opinion to have record of L.M.C. 5.03.*

It is submitted that this vessel is eligible for THE RECORD—L.M.C. 5:03 Elec. Light.

*L.M.*

*PTA 5-6-03*

The amount of Entry Fee. £ *2* : : :  
 Special . . . . . £ *31* 2 : : :  
 Donkey Boiler Fee . . . . . £ . . . : : :  
 Travelling Expenses (if any) £ . . . : : :  
 When applied for, *26 May 1903*  
 When received, *3/6/1903*

*G.A. Starn*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

FRI. 12 JUN 1903

Assigned

*+ L.M.C. 5.03 Elec. Light*

MACHINERY CERTIFICATE WRITTEN.



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Newcastle-on-Tyne.

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