

REPORT ON MACHINERY.

Received at London Office

MAY 23 1911

Date of writing Report 19. 4. 1911 When handed in at Local Office 20. 5. 1911. Port of Aberdeen.

No. in Survey held at Aberdeen. Date, First Survey 14. 2. 11. Last Survey 19. 5. 1911. Reg. Book.

on the "COREOPSIS"

(Number of Visits 21.)

Tons { Gross 88.48 Net 38.61 When built 1911.

Master Philip Gardiner. Built at Aberdeen. By whom built A. Hall & Co. Ltd (No. 464)

Engines made at Aberdeen. By whom made A. Hall & Co. Ltd (No. 164) when made 1911.

Boilers made at do. By whom made do do. when made 1911.

Registered Horse Power 39. Owner Philip Gardiner. Port belonging to Kirkcaldy.

Nom. Horse Power as per Section 28 39. Is Refrigerating Machinery fitted for cargo purposes no. Is Electric Light fitted no.

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

Dia. of Cylinders 9 1/4", 16", 26". Length of Stroke 18". Revs. per minute 140. Dia. of Screw shaft 5.625" as per rule 2.5.492. Material of screw shaft Scrap iron.

Is the screw shaft fitted with a continuous liner the whole length of the stern tube no. 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 parcelled & served. Length of stern bush 24".

Dia. of Tunnel shaft as per rule 4.4.4. Dia. of Crank shaft journals as per rule 5.2.2. Dia. of Crank pin 5 1/2". Size of Crank webs 8" x 3 1/2". Dia. of thrust shaft under collars 5 3/8".

Dia. of screw 6.6". Pitch of Screw 8.5". No. of Blades 4. State whether moveable no. Total surface 14.5 sq ft.

No. of Feed pumps 1. Diameter of ditto 2". Stroke 9". Can one be overhauled while the other is at work.

No. of Bilge pumps 1. Diameter of ditto 2". Stroke 9". Can one be overhauled while the other is at work.

No. of Donkey Engines one. Sizes of Pumps 4" x 2 1/2" x 4" duplex. No. and size of Suctions connected to both Bilge and Donkey pumps.

In Engine Room one of 2". In Holds, &c. Fishhold & After Compartment, one each of 2".

Also ejector, drawing from all parts, & with separate suction to engine room 2" dia.

No. of Bilge Injections 1 sizes 2 1/2". Connected to condenser, or to circulating pump C. 70. Is a separate Donkey Suction fitted in Engine room & size yes. 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 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 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 suction from fishhold. 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 28. 4. 11. of Stern Tube 25. 4. 11. Screw shaft and Propeller 28. 4. 11.

Is the Screw Shaft Tunnel watertight now. Is it fitted with a watertight door worked from.

OILERS, &c.—(Letter for record (r)) Manufacturers of Steel W. Beardmore & Co. Ltd. & Colville & Sons Ltd.

Total Heating Surface of Boilers 400 sq ft. Is Forced Draft fitted no. No. and Description of Boilers one, cyl. mult. single ended.

Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 10. 5. 11. No. of Certificate 659.

Can each boiler be worked separately. Area of fire grate in each boiler 24 sq ft. No. and Description of Safety Valves to each boiler 2, direct spring.

Area of each valve 3.14 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 4" internal. Mean dia. of boilers 9.9". Length 9' 0". Material of shell plates S.

Forecastle Thickness 3/8". Range of tensile strength 28-32. Are the shell plates welded or flanged no. Descrip. of riveting: cir. seams d. r. lap.

Long. seams double straps. Diameter of rivet holes in long. seams 1 1/16". Pitch of rivets 5 1/2" - 2 3/32". Lap of plates or width of butt straps 10 3/8" x 8".

Per centages of strength of longitudinal joint rivets 83.14. Working pressure of shell by rules 181.4. Size of manhole in shell 16 1/2" x 12 1/2".

Size of compensating ring 28" dia x 3/8". No. and Description of Furnaces in each boiler 2: plain. Material S. Outside diameter 34".

Length of plain part top 63 1/2". Thickness of plates crown 2 1/2". Description of longitudinal joint welded. No. of strengthening rings none.

Working pressure of furnace by the rules 180.2. Combustion chamber plates: Material S. Thickness: Sides 5/8". Back 5/8". Top 5/8". Bottom 5/8".

Pitch of stays to ditto: Sides 9" x 8". Back 8 5/8" x 8 1/2". Top 9" x 8". If stays are fitted with nuts or riveted heads nuts. Working pressure by rules 184.

Material of stays S & S. Diameter at smallest part 1 1/2". Area supported by each stay 43. Working pressure by rules 183. End plates in steam space:

Material S. Thickness 3/8". Pitch of stays 14" x 13 3/4". How are stays secured d. r. w. Working pressure by rules 188. Material of stays S.

Diameter at smallest part 2 1/16". Area supported by each stay 192. Working pressure by rules 180.4. Material of Front plates at bottom S.

Thickness 3/8". Material of Lower back plate S. Thickness 3/8". Greatest pitch of stays 13 1/2" x 8 5/8". Working pressure of plate by rules 206.

Diameter of tubes 3 1/4" ext. Pitch of tubes 4 1/2" x 4 1/2". Material of tube plates S. Thickness: Front 3/8" x 5/8" db. Back 2 1/2". Mean pitch of stays 9 1/2".

Pitch across wide water spaces 14 3/4". Working pressures by rules B. 190. Girders to Chamber tops: Material S. Depth and

Thickness of girder at centre 6 3/4" x 1 1/2". Length as per rule 24". Distance apart 8". Number and pitch of stays in each two: 9"

Working pressure by rules 184. Superheater or Steam chest; how connected to boiler None. Can the superheater be shut off and the boiler worked

separately. Diameter. Length. Thickness of shell plates. Material. Description of longitudinal joint. Diam. of rivets

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

al No. of Visits 3. 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.

10, 15, 17, 18, 19.

Lloyd's Register Foundation

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 _____

Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____ Lap of plating _____ Per centage of strength of joint _____ Rivets _____ 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, and 2 bottom end bolts & nuts; 2 main bearings and 1 set coupling bolts & nuts; 1 set each Air, Circulating, Feed & Bilge pump valves; one each main & donkey feed check valve; bolts & nuts assorted, & iron of various sizes. **FOR ALEXANDER HALL & Co., Ltd.**

The foregoing is a correct description, *Arthur Farquhar*
Manufacturers of Main Engines & Boilers—

Dates of Survey while building _____ 1911. Feb. 14, 22, 24 March 3, 6, 10, 13, 15, 21, 29 April 8, 14, 19, 25, 28, 29 May 4, 10, 12, 16, 19

During progress of work in shops - - -
During erection on board vessel - - -
Total No. of visits 21

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

Dates of Examination of principal parts—Cylinders $\frac{3.21}{5}$ $\frac{14.19}{4}$ Slides $\frac{19}{4}$ Covers $\frac{19}{4}$ Pistons $\frac{6}{3}$ $\frac{8.14}{4}$ Rods $\frac{6}{3}$ $\frac{8}{4}$

Connecting rods $\frac{6}{3}$ $\frac{8}{4}$ Crank shaft $\frac{4}{2}$ $\frac{6.10}{3}$ $\frac{8}{4}$ Thrust shaft $\frac{8}{4}$ Tunnel shafts $\frac{4}{4}$ $\frac{14}{5}$ Screw shaft $\frac{22}{2}$ $\frac{14}{4}$ Propeller $\frac{14}{4}$

Stern tube $\frac{4}{4}$ Steam pipes tested $\frac{12}{5}$ Engine and boiler seatings $\frac{15}{3}$ $\frac{26}{4}$ Engines holding down bolts $\frac{12}{5}$

Completion of pumping arrangements $\frac{16}{5}$ Boilers fixed $\frac{12}{5}$ Engines tried under steam $\frac{16}{5}$

Main boiler safety valves adjusted $\frac{16}{5}$ Thickness of adjusting washers Port $\frac{6}{16}$ Star $\frac{6}{16}$ full.

Material of Crank shaft *J & S* Identification Mark on Do. *588A* Material of Thrust shaft *S* Identification Mark on Do. *588A*

Material of Tunnel shafts *J* Identification Marks on Do. *596A* Material of Screw shafts *J* Identification Marks on Do. *594A*

Material of Steam Pipes *Copper/brass* $\frac{2}{2}$ bore No. 8. 12. 10. 9. Test pressure 360 lbs per square inch.

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

These Engines, and the boiler, have been constructed under Special Survey and in accordance with the Secretary's Letter, the Rules, and approved plan. The materials & workmanship, are good. When completed, & properly fitted on board, they were tried under steam at moorings with satisfactory results, and are now, in good working order, and in my opinion entitled to the record **L.M.C. 5.11.** in the Register Book.

It is submitted that this vessel is eligible for **THE RECORD, + L.M.C. 5.11.**

JWD. APR 24/5/11

Ridley Towell
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee .. £ 1 : : When applied for, 2.2.5.1911

Special .. £ 8 : : When received, 26/5/11

Donkey Boiler Fee .. £ : : _____

Travelling Expenses (if any) £ : : _____

Committee's Minute **FRI. 26 MAY 1911**

Assigned *thmc 5.11*

Abdeen Office

Certificates (if required) to be sent to _____ (The Surveyor requested not to verify on or below the space for Committee's Minute.)

